

THE GEOGRAPHIES OF THE *BLACK HENNA MEME ORGANISM* AND THE EPIDEMIC
OF PARA-PHENYLENEDIAMINE SENSITIZATION: A QUALITATIVE HISTORY

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by

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PREFACE: DEFINITIONS AND STYLE

In the body of this qualitative history, henna refers to the plant *Lawsonia inermis*, the product of powdered henna plant leaves, the hair dye, and body art created with powdered henna plant leaves. Black skin dye products and temporary tattoos created by painting skin with para-phenylenediamine products to create a temporary tattoo will be termed 'black henna' and will set off by ‘ ’ marks.

Para-phenylenediamine will be abbreviated as PPD in the body through this text, both for its use as body art and as an industrial chemical product and component of other products. Products marketed as black henna, such as indigo, which do not contain PPD are not set off by ‘ ’ marks. Henna body art created with *Lawsonia inermis* which has been darkened by heat, solvents, or alkali will be referred to as blackened henna.

Henna body art is often an expression of cultural memes. When I refer specifically to henna as a cultural concept, I will italicize it as a *henna meme*. When the *henna meme* has additional cultural concepts connected, I will refer to it as a *henna meme organism*.

The meme of body art created by painting PPD on the skin will be italicized as the *black henna meme*. When the *black henna meme* has additional cultural concepts connected with it, I will refer to it as a *black henna meme organism*.

Memes are units of culture. Memes may be simple or complex. Memes are replicators replicating from one person to another through the imitation of actions, communications and artifacts. Memes with associated concepts are more successful replicators than memes without associated concepts. Memes with associated concepts will be referred to as meme organisms.

The area of memetic replication, collaboration, evolution, or extinction, is a network environment. The network environment is the cultural group where ideas are shared and this group may be of any size. A memeplex is the contextual web of ideas within which a meme organism may replicate and evolve as a cultural unit in a culturally complex system, a social network or network environment.

The ideosphere is the global sum of all memes, systems of thoughts and knowledge shared by humans, just as the biosphere is the global sum of all systems of living beings.

The mediasphere is the globalizing sum of memes which proliferate through publications and electronically distributed media, including the Internet.

‘Truthy’ is an attribute of an evolved meme organism regarded as ‘true’ because it has been constructed and consumed within a network environment. Truthy and the development of truthiness are aspects of assertion and the construction of belief in information diffusion through network environments. Truthy beliefs are memes widely replicated without regard to evidence, logic, intellectual examination, or fact.

Because much of the data in this work is based on internet memetics, the online material is vulnerable to link rot. I have utilized the Chicago Turabian Manual of Style and the Style Guide of the Kent State University College of Arts and Sciences for organizing citations and documenting material to permanently provide supporting material. This material, placed in the end notes, documents direct quotations, paraphrases and summaries, information that is not common knowledge, information that is not available in a standard reference work, and material that might appear to be my own if there were no citation. This is done to preserve smooth integrity and readability of the body.

CHAPTER I: INTRODUCTION TO THE QUALITATIVE HISTORY OF ‘BLACK HENNA’ AND THE EPIDEMIC OF PARA-PHENYLENEDIAMINE SENSITIZATION

‘Black henna’ body art evolved from traditional henna body art in the 1970’s when artists began to add 12.5% to 80%¹ PPD oxidative dye into henna for body art to produce a faster, more efficient, darker stain. 10% PPD painted on skin causes sensitization in 100% of subjects in five applications or fewer.² The blistering and scarring appears in the area of the pattern five to twenty days after application, and may sensitize as many as 50% of the subjects on the first application.³ The connection between the body art and onset of the reaction is not well understood by patrons and is often not seen by the artists. The ‘black henna’ temporary tattoo became a popular exotic souvenir and a profitable informal economic venture in the late 1990’s and the practice has proliferated through the global tourist industry and cultural practices.

The ‘black henna’ meme replicated from local practice into global cultural geographies through pop culture, tourism, and the Internet. Online and media commentary about ‘black henna’ began around 1997, at which point the replication and evolution of the *black henna meme organism* became visible and recoverable. This work will analyze the history, geography and cultural phenomenon of *black henna meme organisms* in the tourist industry through memetics and discourse analysis of online commentary on ‘black henna’ and the PPD sensitization epidemic produced by ‘black henna’ between 1997 to 2014.

Two case studies of ‘black henna’ in tourism: Camilla and Spider Girl Get ‘Black Henna’ in Zanzibar

Camilla, Duchess of Cornwall, wife of Prince Charles of England, got a ‘black henna’ temporary tattoo on an official visit to Old Fort in Stone Town, the capital of Zanzibar, November 9, 2011.⁴

In over twenty repetitions of the same story across news media online,⁵ the press and royal watchers worldwide noted and tittered over the black swirls on Camilla’s hand.⁶

Rebecca English, royal correspondent for *Hello Magazine*, in an article titled, “Camilla gets the Royal tattoo (but don’t worry, it’s only henna)” commented, ““Duchess of Cornwall is not one for alternative fashions - but it looks as though her trip to Africa has brought out a different side to her. ... Camilla showed off an interesting tattoo on her palm today as she continued her eight-day Commonwealth tour in Zanzibar. But thankfully for the rest of the Royal family, it was henna ink and will likely fade in a day or two.”⁷

By November 16, Rebecca English reported to The Daily Mail that the black stain was still on her hand, in “‘I’ve scrubbed and scrubbed but it won’t come off!’ Camilla’s anguish over Henna tattoo given to her on Tanzania trip ahead of state banquet.”⁸ Rebecca quotes Camilla as saying, “I didn’t feel that I could refuse and it was rather beautiful but then, after I had it done, this lady put her hand on mine and splodged it everywhere. ‘I just can’t get it off. I have tried scrubbing and everything...nailbrushes, you name it. I just don’t know what to do.’” Photographs of her hand showed black stains still on her hand seven days after application. Camilla needed to be rid of the stain, as she had, “a series of very public engagements coming up, including a lavish state banquet at Buckingham Palace thrown by the Queen in honour of the Turkish President where tiaras are a more traditional form of adornment.”⁹

The swirls on Camilla's hand were in an uneasy dynamic of the regimes of body scripts of the dominant and the 'other,' Imperialist and colonial geographies, host, local, and donor tourist geographies, celebrity voyeurism, and transgression. Since the late 1990's, when henna body art enjoyed a surge of global recognition, the 'hennaed hand' has become a symbol of 'the brown woman',^{10, 11} and acquiring henna has become a symbol of sampling (or consuming) the culture of brown women.¹²

Camilla was in a Third Space

Foucault proposed that there is a range of 'different spaces' that challenge or contest 'normal, everyday space' in a brief but influential radio interview in 1966 as, "not a science of utopias but of heterotopias, a science of absolutely other spaces."¹³ He proposed heterotopias as spaces where every day orderly behavior is rescripted, giving examples of children's games, holidays, festivals, brothels, prisons, asylums, and cemeteries. The concept of 'these different spaces, these other places' (*de ces espaces différents, ces autres lieux*) has been extended into geography,¹⁴ architecture, sociology,^{15 16} and tourism.¹⁷ The third spaces theorized in tourism are constructed in a slightly different way from Oldenburg's Third Places¹⁸ and Soja's Thirdspaces. They incorporate the critical understanding that space is not a binary, there are multiple spaces, "... of radical openness, a context from which to build communities of resistance and renewal that cross the boundaries and double-cross the binaries of race, gender, class and all oppressively Othering categories..."¹⁹ They differ in that tourism Third Space focuses and commodifies the essential "otherness" of the host culture that travelers visit. "The

tourist destination then becomes a place for the voyeuristic gaze of the tourist, reducing, at best, the destination culture to an inferiorised exoticism.”²⁰

In the areas of tourism that offer ‘black henna’ temporary tattoos, the third space offers the western visiting body a space for temporary inversion of body scripts from unmarked (civilized) western skin to marked (exotic) skin. This commercial transition of services and goods between an essentially unequal host and guest reinforces and exploits the hegemony of western discourses of skin and race. It is part of the range of ‘going native’ tourist activities, where, “... in an emotional sense, it reinforces the narcissistic hedonism of sun, sand and sex, where at best tourists of the developed world indulge in the pleasures of the flesh with each while at worst, it reinforces the shadow of sex tourism ...”²¹ The Third Spaces of tourism are revised and edited versions of the host’s culture, manufactured and sold to suit the expectations of the visitor; the space is co-constructed as an attractive and non-threatening commodity, while being marketed as an encounter with the ‘dangerous other’ at a reasonable price.

People behave differently and are expected to behave differently when on vacation and to bring home mementoes of their differenced experience. The tourism industry constructs a ‘third space’ in which the host’s cultural heritage is made more vivid, amusing, entertaining, and consumable for visitors, tailored to the visitor’s pleasure and the host’s profit.²² In this third space, the donor body is encouraged to transgress under the presence of experiencing the exotic culture without consequence.²³

Camilla got a henna temporary tattoo. She did not get a permanent tattoo. The press and diplomacy required her to embrace the exotic culture, and to try on the ‘other’ body but then to return to dominant norm and relinquish the exotic body. A permanent tattoo would have been

permanent, rebellious, and unacceptable. Rebecca English expressed concern that Camilla's body would not return to norm as quickly as required to perform her role as a Royal at the next British official function. Her commonwealth tour was to take eight days. Her body was to visit each country and then to return unchanged.

The media commentary surrounding Camilla was similar to comments around the world about people who purchase a temporary tattoo on vacation. The temporary tattoo was transgressive. It was daring. It was out of character. The recurrent themes of acquiring a temporary tattoo on vacation are not dissimilar from consuming other items offered in the neoliberal marketplace of third space tourism. Transgression, exoticism, othering, voyeurism, orientalism, and cultural consumption are all aspects of getting a temporary tattoo. Acquiring a temporary tattoo is in the tourist activity stellation of eating different food, drinking different beverages, wearing different clothing, doing different dances, speaking different words, purchasing local crafts. Hosts provide these experiences, encourage consumption of them, and profit from this dynamic, unequal though it may be.²⁴

Camilla commented about the henna, "I didn't feel that I could refuse and it was rather beautiful ..." shows her sense of unequal bodies in the third space of tourism. In front of the press, she felt required to be gracious and to embrace local customs. To question the henna artist in the host country, or to refuse her, might be perceived to be arrogant, imperialistic and to recall uncomfortable aspects of historic class and political struggle.

Camilla had gotten natural henna in Morocco in April of 2011,^{25 26} and though there was similar clucking in the media over the inappropriateness of tattoos on a royal body, she had experienced natural henna as harmless and temporary. Natural henna has a high level of safety.^{27 28} Camilla,

Duchess of Cornwall, and her staff would not have had a reason to question the Zanzibari henna artist about what was in the henna. She was told it would wash off in two days. They did not know the paste contained anything other than henna.

Zanzibar has a natural henna tradition associated with Islam. The plant is indigenous, henna traditions are part of Muslim culture; henna body art is used at weddings and Eids. Henna body art has been a product in the modern Zanzibari tourist industry for at least twenty-five years.²⁹ Henna body art is a popular cultural heritage product³⁰ not only in Zanzibar, but also in tourist destinations around the world. Henna is an avenue for female participation in tourist economies. A skillful, enterprising henna artist can earn more money through her own enterprise than working as a housekeeper in a hotel.

The economies of tourism and the construction of the tourist third space accommodate henna body art but favor the substitution of PPD for henna. Natural henna takes two hours or more to stain skin in the orange to brown color range. The results of natural henna are uncertain, and the orange/brown color may be considered unattractive, particularly as the stain fades.

PPD black dye stains skin black quickly and reliably, often in twenty minutes or fewer. If woman chooses to do henna art on tourists, she will probably make more money, more quickly, and more efficiently if she chooses PPD, 'black henna,' rather than henna.³¹ Natural henna is considered by dermatologists to be very safe for use on skin, but it cannot stain skin black quickly and efficiently as is necessary for tourists on a 'time budget.' Also, western tourists, more familiar with black permanent tattoos than with henna, are reported to most frequently request black temporary tattoos, as they emulate permanent tattoos.

Spider Girl, a tourist in Zanzibar, paid a ‘black henna’ artist the equivalent of \$2 for one henna design. The average worker in Zanzibar earns less than \$1 a day, with women earning, on average, only one third of what men earn,³² so the half hour required for Spider girl’s henna paid a premium wage for the work. Henna is an attractive source of income, not only in the third world, but also in all tourist areas, including the informal economies of festival, park, and beachfront vending in the US, UK, and Europe. US henna artists usually report charging \$50 to \$150 per hour for henna work.



Figure 1: Spider Girl receives a ‘black henna’ on the beach from a Zanzibari henna artist and the type IV delayed hypersensitivity reaction to the PPD.³³

Artists mix PPD with, or use it instead of, henna in tourist areas around the world to create black temporary body art emulating black permanent tattoos. The first indications in online discussions of ‘black henna,’ PPD being used as body paint in tourist areas were from the mid-1990’s, in Sudan,³⁴ Tunisia,³⁵ and Bali.³⁶

In 2011, PPD is used as an additive to, or instead of henna, not only in Zanzibar but also in virtually every tourist destination in the world because PPD is readily available as hair dye.

While henna is very safe for use on skin and rarely causes any reaction, PPD is forbidden by the manufacturer for use on skin because of the danger of serious injury.³⁷ PPD may cause delayed hypersensitivity allergic reactions.³⁸ Figure 1 shows the application of 'black henna' and the subsequent hypersensitivity reaction.

Spider Girl blogged about her allergic reaction to 'black henna' in 2005,³⁹ "I got this done in front of my beach hotel in Nungwi, Zanzibar by a very nice local woman. She painted a very beautiful design. Unfortunately, this whole experience was a nightmare afterwards."

She continued, describing an unusually rapid and severe allergic reaction to the PPD, "The design felt okay at first, but I had second thoughts about having done this almost right away, and tried to peel the henna paste off only ten minutes later (they recommend you leave it on for an hour). I ran up to the bathroom in our room and tried to wash it off, but as was common in our hotel the water was not currently working."

She described how she was familiar with traditional henna, but this seemed different, "Fortunately they got the pump going within the hour and I took off what I could. It still felt okay, but that inner little voice of mine was already telling me that this had been a bad, bad, idea. I tried to hush it. After all, I've had henna applied many, many times in my life and never had a problem: at belly dance parties in Canada, in the city of Marrakech in Morocco. But that was real henna, not the black henna."

The delayed hypersensitivity reaction proceeded, "It was during the night (when my arm began to itch and burn) that I began to realize I was having an allergic reaction and by the time I was on the flight from Nairobi to England I was nauseous and the blisters were at least an inch high. I

wouldn't have thought it possible for your skin to contain so much fluid...”⁴⁰ Spider Girl’s experience is shared by thousands of tourists who have gotten ‘black henna’ applied on vacation.

A person using the screen name of ‘Zanzilandholidays’ on Trip Advisor,⁴¹ an online tourism information blog, posted a warning to another tourist who had been scarred by ‘black henna,’ “Heena is very common in Zanzibar and all coastal regions but there are so many ways people are shortening its painting and drying times and destroy its name by using artificial ways and using the same name of Heena.”

Zanzilandholidays explained that it was common for henna artists to use PPD for its convenience, and to lie about it, “Most of local people have been using both ways and they know, but other Spa and Salon which deal with tourists are not telling them truth because they know that Tourist will not use that services because of the actual time of the Pure Heena Paintings. Most of places are using Hair Dye because in can be painted and dry in few minutes compare to natural Heena. Also most of Staffs are liars, because are not telling truths to their customers.”

Zanzilandholidays continued in her explanation of what to watch for, describing what to avoid, “Shortly, there is no a natural black heena painting which will not pass through all steps and take less than 3hours, less than is not a right one. Note: When you go to those Spa or Saloon, just advise them not to use Dye, common name know as (PIKO) the name Piko is very common in Zanzibar because it has been used for most of women to shorten the time of painting.”

She specified the hair dye used, “ ‘The Name PIKO comes to Peacock, this is the brand name of the Hair Dye, so they locally shorten it to local name as PIKO, but currently there are so many

Brand names but all of them still know as PIKO. Some of the time ask them to show up their combination in order to assure if is the real one.”

Zanziland listed the ingredients from the package, “Its ingredients are: Sodium Perborate, p-Phenylenediamine, Cellulose Gum, Malic Acid, Tartaric Acid, hydroxypropyl, Trimonium, Hydrolized Collagen, Sodium Carbonate, Sodium Sulphate, Sodium Methloloeyl taurate,p-Methylamino-Phenol Sulfate.”⁴²

The injuries on Spider Girl’s arm were caused by PPD from Peacock Black Hair Dye, used to make ‘black henna’ as quoted by Zanzilandholidays. The hazards and injuries from painting PPD on skin are now well documented in medical journals.⁴³

A white American woman working in Zanzibar blogged, ““Henna’s that natural paint made from crushed leaves & oils and the history of henna is ancient. Piko is actually Chinese black-hair dye powder mixed with water, a newer phenomenon, a bit toxic, but still a favourite look in Zanzibar. I’m sometimes prone to acidic burns on my legs from piko, but I love the dark black inky look, and bear the pain.”⁴⁴

At the date of this writing, there is no mention in the media of Camilla having had an allergic reaction to the PPD. Reports estimate the likelihood of a visible allergic reaction between 10%,^{45 46} and nearly 50%.^{47 48} Camilla either did not have a reaction, or the reaction was not made public. The Trip Advisor blog⁴⁹ includes three persons’ descriptions of ‘black henna’ causing injuries to eight children in tourist resorts in Zanzibar. Camilla, Spider Girl, and the other people who posted about their ‘black henna’ injuries in the Trip Advisor Zanzibar Black Henna forum all left the country before the allergic reaction surfaced. The onset of the type IV hypersensitivity

reaction PPD, based on medical reports, presents between one and thirty-five days,⁵⁰ usually between four and twenty-eight days after the application.⁵¹

Henna is a cultural heritage in Zanzibar and is part of the cultural consumption package for tourists in Zanzibar.⁵² Marketing cultural heritage as a profitable commodity in cultural tourism and is a well-known area of conflict: “There is pressure to preserve or ‘zooify’ culture, isolated and insulated as in a ‘bubble,’ from the change that may be introduced by the visitor. On the other hand, there is the likelihood of predatory exploitation driven by a ‘bottom line fever’ toward short term, maximum income with no concern about degradation of the cultural resource.”⁵³ The degradation, in the case of henna, is not only the reputation of henna as an art but also the health of the artists and clients. PPD can cause severe injuries in the short term, and life-threatening consequences in the long term.⁵⁴ Many medical journal articles confirm that the adulteration of henna with PPD to make quick black stains is the cause of the injuries, and that henna, itself, is safe.⁵⁵

‘Black henna’ is unquestionably used in the tourist industry in Zanzibar, and the extent of injury caused in the space of tourism is largely obscured by the departure of the persons from the space of tourism.⁵⁶

Camilla, Spider Girl, and those who posted in the Trip Advisor Blog seem to have had no idea that ‘black henna’ contained PPD, or that it could cause a severe allergic reaction. They were familiar with safe, traditional henna. The delay of the hypersensitivity reaction, and the fact that many people do not have a reaction, makes the danger of ‘black henna’ injuries invisible in the tourist sector.

The secondary effect of these direct applications of PPD to skin is to sensitize the person to all future contact with products containing PPD and related chemicals such as those in oxidative permanent hair dye. Medical papers state that there is now an epidemic of PPD sensitization, with severe injuries, hospital admissions, and deaths occurring when people who were sensitized through 'black henna' tattoos and subsequently used chemical hair dye.⁵⁷

There are no published English language western-originating medical journal articles prior to 1998 describing injuries from application of PPD as 'black henna' temporary tattoos to skin in areas of tourism.⁵⁸ By 2012, more than four hundred English language medical journal articles have been published on the injuries from 'black henna.' There are thousands of personal and English language periodical news publication reports of people applying 'black henna' in tourist areas, festivals, parks and beachfronts around the world. 'Black henna' as a product for cultural consumption in tourist spaces globalized very quickly and the mechanisms of that rapid globalization are the focus of this work.

Henna body art was a women's localized cultural body art practice dating from Bronze Age and remained localized until the late twentieth century. Henna body art became an item of global consumption in less than fifteen years following its popularization in 1997, providing an income to thousands of people in informal economies.⁵⁹

During the globalization of henna body art, a sector of the craft changed from the creation of a harmless red-brown stain made from crushed henna plant leaves to the creation of a potentially lethal black stain made with the chemical PPD. This change was largely driven by a consumer demand that henna be faster to apply, stain more reliably, and emulate a black permanent tattoo. This change has probably injured and sensitized tens of thousands of people around the world.

The forces driving this change are surely worth serious investigation. It is challenging to choose an approach to global epidemic that evolved from a rather simple misconception, that there is such a thing as ‘black henna’. Henna is NOT black.

Approaching the ‘Black Henna’ PPD Sensitization Epidemic through Cultural Geography

PPD sensitization from ‘black henna’ temporary tattoos is now considered by dermatologists to be a global epidemic,⁶⁰ affecting children and adults who are initially injured by temporary tattoos then later come into contact with related chemicals through work,⁶¹ ⁶² perfumes,⁶³ clothing,⁶⁴ medications,⁶⁵ or hair dye.⁶⁶ ⁶⁷ Reactions to these sensitizations may be fatal.⁶⁸ This problem lies at a complex intersection of tourism, popular culture, informal economies, women’s economies, medical study, children’s recreation and health, cultural consumerism, and orientalism.

There are many ways to approach the problem of PPD through ‘black henna’ temporary tattooing through aspects of cultural geography. The cultural phenomenon of ‘black henna’ temporary tattooing in the tourist sector began in the late 1990’s. Online commentary about ‘black henna’ began around 1997, and people’s understandings of it can be traced through forums, blogs, websites, social media, vendor’s sites, medical papers, news reports, tourism advisory sites, and hundreds of vacation photographs uploaded to image sharing sites such as Flickr. This work will reconstruct the history, geography and cultural phenomenon of ‘black henna’ in the tourist industry through memetics and discourse analysis of online commentary on ‘black henna,’ from 1997 to present.

Approaching 'Black Henna' through Economic Geographies of Women

Since the 1980's, anthropological and sociological academics investigating henna have done so through women's studies. Henna body art in Muslim culture, through north⁶⁹ and east Africa, the Arabian Peninsula, the Maghreb, and South Asia is largely female gendered.⁷⁰ Most henna was done by women, on women, and in women's spaces. Maria Messina's dissertation in cultural anthropology⁷¹ focused on women's ceremonial use of henna in Morocco, with some discussion of the economic practices of the henna artist. Deborah Kapchan has published several works on women's henna work in Morocco;^{72 73 74} her original approach being through women's anthropology and sociology.

Women work as henna artists in gendered businesses in Muslim and Hindu cultures and have done so for generations. Travelers during the colonial period described women working as henna artists, usually within the women's quarters or in the women's baths. These women adorned brides for their weddings and hennaed guests at the weddings and parties. Clans or castes often dominated local henna economies, such as the barbering caste in Yemen, and the Maalmin group in Mauritania, though this domination is now challenged by a younger generation who would prefer more freedom of choice and economic mobility.⁷⁵ At present, women work in the henna trade throughout the economic spaces of Muslim women's culture, as henna is a part of weddings, Eids, and the celebrations of life. Henna is one of the best economic opportunities for women; it is well accepted and considered modest, appropriate work for women. To the extent that henna artists stay in one place, serving one clientele year after year, one would expect that any harm done through henna would be reported and addressed or in some way acknowledged and constructed as a cultural discourse, such as the discussion of embracing the pain of blistering from PPD body painting as a prerequisite for beauty and the creation of

female sexual desire, as stated in “Piko in Paje – ancient Swahili lady lessons on pleasure and pain.”⁷⁶

Many salon-based henna artists work in natural henna,⁷⁷ but others use faster-staining henna pastes mixed with dangerous solvents and PPD.^{78 79} The earliest medical paper published on the dangerousness of PPD used as henna was from 1996, from Saudi Arabia.⁸⁰ An investigation of a leukemia epidemic in the UAE brought attention to the long-term use of benzene in henna paste.⁸¹ In 2009, the UAE Ministry of the Environment began actively investigating the adulterants in henna used in salons, finding concentrations of up to 29.5 per cent PPD in paste. Reports indicated that women knew of the injuries but excused them for the sake of fashion. One woman responded, “It was fine the first time I used ‘black henna’ but the second time I had a small design on my wrist and it came up with a rash. It wasn’t that bad, just itchy,” she said. “I’d still probably use it for a small design, but not a large one.” A stylist said more customers were requesting the color: “Black is popular, red henna doesn’t look so good.” She said she knew that chemicals were added to ‘black henna,’ but did not know what they were. Ignorance about PPD seemed to be part of the problem. “Alice Joy, the manager of Angel Beauty Salon in Bur Dubai, said she believed the ‘black henna’ used at her salon did not contain henna leaves, but was a mix of hair dye and henna oil. She said she had never heard of PPD.”⁸²

By 2011, several health ministries in the Arabian Peninsula had banned PPD ‘black henna’ body painting and legislated that salons would lose their licenses if caught applying such; photographs uploaded to Flickr accounts indicate that the supply and demand for black henna still prevailed despite the law.⁸³

Natural reddish brown henna has been used as women's adornment for centuries.⁸⁴ Henna has been a women's economy for centuries. Henna has been done in women's spaces for centuries. Henna has been, and should continue to be, a productive area of research in women's studies and can serve as a foundation for investigating women's embodiment, body scripts, cultural geography in place and in diaspora, economics, community, semiotics, anthropology, media, history, music, art, dance, political organization, labor organization, chemistry and botany.

Since the late 1990s, henna has jumped from its traditional color, gender, economy, and local space into a global economy, a different color, and the third space of tourism. Previous academics have approached localized henna through gendered spaces and women's studies, but limiting this subject to women's participation ignores twenty-first century geographic spread of PPD 'black henna.' The henna artists in the third space of tourism in the first decade of the twenty first century are male as often as female; their consumers are male, female, adults and children; and their paste is often blackened with PPD.⁸⁵ The approaches to henna through women's studies have served well in academic research and should continue. For this project, a hybrid approach will be necessary for a qualitative historical study of the 'black henna' meme and the epidemic of PPD sensitization.

Approaching 'Black Henna' Through the Geographies of PPD

If 'black henna' body art is created with PPD, a coal tar derivative used to dye hair, fur, textiles, and leather, among other industrial uses,⁸⁶ one might map a positivist here-to-there approach to track PPD as it is misdirected from its intended use as a chemical dye forbidden for use on skin

by the US FDA⁸⁷ and other countries,^{88 89} to being mixed and used to make 'black henna' by individual artists.

PPD is almost universally available to anyone who can make a purchase in a drug store that stocks western manufactured cosmetics or personal care items, or who place an order online. Artists often use Peacock and Bigen black hair dye to create 'black henna' temporary tattoos. Peacock is available in drug stores in the Arab countries and Africa,^{90 91} and Bigen is available in beauty supply stores worldwide.⁹² In some Arab, Middle Eastern and North African market places, people may purchase 'henna stone' to blacken henna.^{93 94} The samples of 'henna stone' or 'henna rock' that I have obtained from Turkey and Israel are a solid form of PPD, possibly obtained from industry waste.⁹⁵ Henna Rock was also reported used in Sudan, Nubia, and Egypt to create 'black henna.'⁹⁶ Amunez was an online source for "Super Black" temporary tattoo paste containing PPD⁹⁷ from 1997 to May 2011,⁹⁸ claiming worldwide distribution from online sales.⁹⁹ Amunez was initially based in Australia¹⁰⁰ and relocated to Bali in 1999.¹⁰¹ Blackhennakits.com's initial website selling Black Henna Kits began in Sunrise, Florida, in 2001,¹⁰² later changing to a business address in Nassau, Bahamas.¹⁰³

Though these vendors were selling 'black henna' made with PPD, DuPont, the patent holder forbids its use on skin and accepts no liability for harm done by anyone applying PPD to skin.¹⁰⁴ DuPont's policy states, "DuPont does not recommend and will not knowingly offer or sell p-phenylenediamine (PPD) for uses involving prolonged skin contact. Such uses may involve, but are not limited to, products formulated with henna for tattoo applications or other skin coloration effects. This use of PPD in prolonged skin contact application has the potential to induce allergic skin reactions in sensitive individuals."

DuPont continues, specifically denying any responsibility for injuries from their product, “Persons proposing to use PPD in any formulation involving any more than incidental skin contact must rely on their own medical and legal judgment without any representation on our part. They must accept full responsibility for the safety and effectiveness of their formulations.”

DuPont’s warnings do not appear on packages of hair dye. A person who purchases black hair dye for use as ‘black henna’ is not informed that injuries may occur if the dye comes in contact with skin. The distribution of PPD as a hair dye and its other industrial uses is global; the understanding of the dangers of PPD is not global.



Figure 2: Allergic reaction to oxidative hair dye containing PPD¹⁰⁵

A person who wants to make money doing black temporary tattoos need only to go to the nearest drug store to purchase supplies. Because hair dye packages encourage ‘patch testing,’ putting a dab of the dye on the skin and leaving it there for an hour or more to see whether there will be an allergic reaction, people would know by experience which black hair dyes readily stain skin, and they would assume that applying it to skin must be reasonably safe. If the package tells people

to test the dye on their skin, why would they not use it on other people's skin? The pathway of PPD into the body art market by itself is probably not a productive investigation because black hair dye is widely available, the packages have few warnings, and there are no restrictions for purchase. An aspiring temporary tattoo artist can find materials to create 'black henna' in any beauty supply store or online, purchase it easily and inexpensively, and assume that it is safe to use.¹⁰⁶

This investigation will include information on known vendors and sources when relevant but will not focus on the simple 'here to there' positivist structural approach of PPD moving from DuPont to skin. This investigation will feature the critical memetics, the conjunction of varied cultural understandings of PPD, as it passes from dangerous industrial chemical to the profitable cultural consumption of "black henna" temporary tattoos in the third space of tourism.

Approaching 'Black Henna' Through the Medical Geographies of Delayed Hypersensitivity Reactions in Tourism

The time and space aspect of the delayed hypersensitivity reaction to 'black henna' in the tourist sector causes problems similar to the understanding of diseases acquired on vacation. Home clinics may not be familiar with the injury, and attitudes of Orientalism, superiority, and vulnerability make their way into the understanding and diagnosis of the patient. 'Black henna' applied in a space of tourism presents as an injury on an average of ten days following, and hundreds of or thousands of miles away from the 'black henna' artist. Critical discourse analysis of the online discussions of the injuries reveal conflicting cultural understandings of injury and liability, risk and blame, the transgressive body in the third space of tourism, perceptions of

cultural degradation thorough tourism, and the conflicted relationship between host and donor in tourism.

An allergic reaction to ‘black henna’ may be immediate, delayed by hours, or delayed by several days or weeks. PPD applied directly to the skin can produce Type IV delayed hypersensitivity reactions.¹⁰⁷ At the date of this writing, published medical papers have described more than four hundred allergic reactions to ‘black henna;’ there is abundant documentation of these injuries.¹⁰⁸ Allergic reactions to ‘black henna’ mixed with PPD have been reported in up to 50% of applications, when there are reports of applications by one artist to many people at one location at one time.¹⁰⁹ These reactions occur between one and thirty-five days after application.¹¹⁰ In all cases of allergic reactions to ‘black henna,’ all reactions are caused by para-phenylenediamine; henna has never been definitively shown to be the cause of the allergic reaction.¹¹¹ The delay between ‘black henna’ application and reaction becomes significant in the third space of tourism, because the injured person typically presents to a clinic far, both physically and culturally from the artist’s venue.

Travelers have a ‘time-space budget’ which defines what they can experience and where.¹¹² The geographies of travel and time in Camilla’s “eight-day Commonwealth tour in Zanzibar”¹¹³ are not uncommon in the tourist industry. A person in a developed western economy may leave her home country for the days that a worker is allotted to accumulate for a vacation, and with what money she has been able to set aside for that vacation. Some things a person may do on vacation make an impression on her body and be noticed only upon return home: the tourist may accumulate sunburns, digestive upsets, rhinoviruses or influenzas while on vacation and have them treated upon return to the home country. These are familiar conditions that are easily recognized and treated.¹¹⁴ Inconvenient and opportunistic passengers may travel on or in a

person's body: worms, viruses, protozoans, fungi, bacteria and parasites, which go unnoticed at the moment of acquisition, may be later diagnosed and treated in the home country.¹¹⁵ These pathogens may take time to develop in the person's body and may require medical lab tests to diagnose. If the home physician is not familiar with the affliction, the diagnosis may be incorrect.

PPD 'black henna reactions' usually appear between three and twenty days after the application.¹¹⁶ If a person has one or two weeks' vacation, with ten days spent in the destination, and has 'black henna' applied some time during that holiday, it is probable that the reaction will be noticed when the person is about to leave, or has left, the host country. The reaction is delayed long enough that many people do not make an association between the reaction and the application of the temporary tattoo. The reaction will most likely be presented to a physician in the home country for treatment, rather than the host country, and the home physician may not recognize the injury as being from PPD, or even be familiar with henna at all. Many patients have no information about what might have been in the temporary tattoo paste other than seeing the artist's sign that said 'black henna.'¹¹⁷

The 'black henna' allergic reaction in figure 3 was from a homemade mix of PPD-based oxidative black hair dye painted onto skin. Because the patient was local, knew the paste ingredients, and could present the ingredients to the physician, diagnosis was straightforward. Most medical papers detailing black henna injuries note that the patient received the 'black henna' on vacation, far from her home clinic with little possibility of obtaining a sample of the paste for testing for accurate diagnosis.¹¹⁸ This gap in information has hampered the correct diagnosis of 'black henna' temporary tattoo injuries; in many cases, the break in the chain of

evidence has led to misinterpretations,¹¹⁹ confused diagnoses,¹²⁰ and in some cases, no diagnosis at all.¹²¹



Figure 3: Severe hypersensitivity reaction from para-phenylenediamine black hair dye painted on skin; BMJ¹²²

I will reference medical journal articles on ‘black henna’ injuries in this work, partly for the positivist ‘this, therefore that’ approach to injury and presentation, with attention to the problems created by the distance in space, time, and culture between application of PPD to skin and the recognition of the Type IV hypersensitivity reaction. I will use critical discourse analysis of the medical papers as part of tracking the memetics and epidemiology of ‘black henna’ temporary tattoos. Medical papers in the early years of the ‘black henna’ epidemic did not recognize the injuries as being caused by PPD.^{123 124} I will compare the official medical discourse to people’s individual online narratives of their injuries and their experiences with doctors as they seek diagnosis and treatment. Critical discourse analysis and comparison of medical journal articles, informal physicians’ statements on ‘black henna,’ vendor’s and victim’s comments online

evidence different cultural understandings of delayed injuries. Tracking these pronouncements over space and time should reveal the proliferation of black *henna memes* across different ideospheres: evidencing a qualitative history of the cultural geography of ‘black henna’ through the viral spread and evolution of *black henna meme organisms* through differing cultural groups and geographies.

Approaching ‘Black Henna’ through the Economic Geographies of Tourism

The global economics of black henna in tourism is a necessarily part of this study. Consumer demand for black henna in tourist venues drives vendor response to that demand.¹²⁵ A positivist and quantitative Marxist approach to that economic dynamic is insufficient by itself, but neither is it completely irrelevant. Producers and consumers of culture in the third space of tourism are unequal, but they are not are not participating in a simple binary,¹²⁶ and the quantitative information on the economics of black henna to perform positivist analysis simply does not exist. Most ‘black henna’ in tourist zones is done by itinerant, seasonal workers, in informal economic areas such on table in the street or a blanket at the beach.¹²⁷

Direct quantitative analysis of ‘black henna’ artists working in tourist areas, the money they earn, and the clients they serve, does not seem to be possible. An enumeration of artists does not exist, though photographs of them exist in people’s collections of their vacation pictures. Their fee schedules vary and are occasionally mentioned online, but there is no way to quantify what the artists earn on a day or in a season. There is no client list, though many of their clients post pictures of themselves getting ‘black henna’ temporary tattoos on vacations.¹²⁸ Online forums, blogs, and web pages yield secondary information about the ‘black henna’ and what happened

after the application. The information in these conversations is insufficient for positivist statistical work, but the qualitative information, statements of how people feel about the economic relationship of the patron and artist in the third space of tourism, is suitable for post-structural discourse analysis.

Using the World Wide Web as an archeology of thought, I will construct a progression of people's statements about their experiences with black henna from spaces of tourism, statements about black henna in English language periodical publications, black henna vendor's statements, and physicians' published medial papers on black henna sensitizations. The quantitative question in medical science of "Is it hazardous to paint skin with para-phenylenediamine?" has already been answered. In this work, I want to answer the qualitative question in cultural geography of "How did the cultural concept of, the meme of, henna evolve from a harmless localized centuries-old women's body art to a dangerous globalized item of cultural consumption in less than a decade?" I will use discourse analysis and online memetics as tools to analyze the evolution and replication of the *black henna meme organism* as it diverged and globalized from traditional henna body art.

Approaching the Geography of Black Henna through Cultural Consumption

Tourists both consume and produce culture; artists consume and produce culture. There are power relationships between the consumer of and producer of culture, but the artist-patron relationship is dynamic and not a simple pillage. The tourist demand for cultural capital and authenticity can turn culture into a commodity, but the demand can insure cultural survival in the age of globalization. As Aoyama demonstrates in her work on the tourist space of Flamenco

dance in Spain, the tourist demand for regionally embedded, authentic, Flamenco dance has contributed to the growth of the art and the economic stability of its practitioners.¹²⁹ Culture is not static; both producers and consumers constantly construct culture, both regionally and globally.¹³⁰

Culture may be consumed, and is altered by, the market forces of consumption, but is not extinguished by consumption.¹³¹ Culture traditions may flourish among local artisans in their locally imbedded geographies when these practitioners realize that artifacts of their culture are globally appreciated and valued. Henna is a cultural tradition that has flourished in the global tourist marketplace, as well as being constantly reinvented by global tourism. Using PPD to create 'black henna' is one of the inventions.¹³² 'Black henna' was not invented by tourism, but it accommodates the demands of both consumer and producer in tourism more readily than traditional henna. 'Black henna' pleases the consumer by creating a quicker stain than traditional henna and a result that appears more like a permanent tattoo. 'Black henna' pleases the producer by being less expensive and staining more reliably than traditional henna.

Tourists often seek to consume cultural authenticity and difference in the third space of tourism. They pay to temporarily immerse themselves in the space of difference, and transgress their usual 'appropriate' body performance. In tourism's third space, the host can profit from the "otherness" of the host's body culture as intriguing but inferior to the tourist's body culture, which is frequently affluent and western.¹³³ The host's body is displayed and frequently costumed in some caricature of indigenous costume; and the tourist's body is coded with Western norms of dress and movement. The tourist destination then becomes a place for the tourist's voyeuristic gaze. When the tourist inverts her body in the third space, the tourist may take on, among other things, the adornment of the host's body. At the beach, reinforcing the

narcissistic hedonism of sun, sand, and sex, this consumption usually includes the purchase of swimwear, sarongs, jewelry, and, since 1996, 'black henna' temporary tattoos. A black-colored temporary tattoo can perfectly emulate the tattoos of an exotic culture without the wearer suffering the consequences of having a visible permanent tattoo when one returns home. Many consumers of black henna delight at the prospect of provoking anger from friends and family who might think they have gotten a permanent tattoo,¹³⁴ or 'gone native' while on vacation. When the tourist leaves the third space, the temporary tattoo is presumed to vanish, along with the bikini, bright clothing, and jewelry. The curios are put on a shelf. The photographs are filed away.

In this work, I will examine people's pronouncements in online discussions and websites about 'black henna' in the economic space of tourism, and use discourse analysis and memetic analysis to reconstruct the evolving spectrum of *black henna meme organisms* of consumers and providers. Since the late 1990s vendors of 'black henna' paste and artists who do 'black henna' have spoken online about their work, where they work, their view of their competition, and how much they earn. Ideas about henna, meme organisms about henna, have evolved within their cultural groups, their network environments. Consumers of black henna temporary tattoos state their preference for black henna in online discussions; they inquire where they can purchase 'black henna' paste and how much it costs. Others warn them of injuries.

The discussion of the economic life of black henna abounds on the World Wide Web, preserved in blogs, forums, websites and archives. Quantitative information on exactly how many people are working at the craft, country by country, how many clients they serve per day, does not exist. Therefore, quantitative economic analysis of 'black henna' in the third space of tourism is impossible. It is not possible to retrieve people's living thoughts and conversations about 'black

henna' in tourism. Because it is possible, however, to retrieve evidence of memes in online discussions of 'black henna' in tourism, there is potential for qualitative discourse analysis of the evolution of the memes since 1997. If the online discussions cannot be proven to be identical to live thought, they surely have a relationship to living thought, just as sediment samples from a riverbed are presumed to be representative of the real life along the river. The understandings of black henna expressed online are black henna memes that existed in the temporal and physical geographies of the moment they were posted online. They are memes embedded in the electronic archaeology of the ideosphere, thoughts and moments preserved by the Internet in time and space.

Approaching Black Henna through the Geographies of Souvenirs

Tourists purchase souvenirs when on vacation to enhance their memory of the vacation, and to prove to themselves and to others that this alternative time and experience truly happened.¹³⁵

Briefly, the tourist's body was in another space. If the tourist returns with a souvenir, the tourist has evidence of being in that space, and, without the souvenir, that space may not exist, or the body may not have been there.¹³⁶ Returning home with embodied souvenirs created in that space is especially desirable because embodiment provides an additional level of authenticity. The possession of exotic trinkets does not prove that a person was in an exotic place, because they could be purchased locally at an export shop. If the tourist's body was physically marked by the space, the body inarguably was IN that space.¹³⁷

The body inversion that was once termed 'going native' is encouraged in the third space in tourism. Tourists often acquire souvenirs that they believe signify their adventurousness in the

third space destination.¹³⁸ Many of the photographs of black henna temporary tattoos posted on Flickr have descriptions such as “Hahah yeah a couple people have mentioned that he looks like a roughneck in this picture. He's actually such a sweet guy that I think he'll get a kick out of people thinking he looks like a hardass ;-)”¹³⁹

This inversion is transgressive rather than rebellious if the tourist acquires a body modification associated with the host culture or visited space and can later return to norm. Tourists are often pleased to show off recently acquired suntans and tan lines and even brag about sunburns. Tans and sunburns fade in the months following the return home. Hair braiding and decorative hair wrapping are also popular souvenirs of tourist beaches. These may be snipped off after the return home.

Temporary tattoos are a highly attractive consumer item because the tourist is, for half an hour or so, passive and still in a space of intimacy with the artist. The artist touches the client. The client often asks for a tattoo with a meaning.¹⁴⁰ The client leaves with proof that they invited the ‘other’ to penetrate the boundary of their personal space and leave a mark. The mark is also proof that the ‘other’ has accepted the invitation and has penetrated that boundary. In the western cultural mythology of adventuring, the moment when the dominant body receives the body markings of the ‘other’ body is iconic. The request for, and the acceptance of, the tattoo signifies a magical turning point in the relationship between ‘dominant’ and ‘other’ body and space. A temporary tattoo in the space of tourism is an enchanted souvenir, creating a ‘refracted enchantment’¹⁴¹ an enhanced experience full of personal significance rather than an acquired object. When the patron’s returns home, the temporary tattoo is evidence of a personal, volitional, and intimate encounter of memory and authenticity¹⁴² with the ‘other.’

Because so many people have uploaded to the World Wide Web pictures of the temporary tattoos they have purchased on vacation, accompanied by their descriptions of the experience, discourse analysis of the experience of tourists and 'black henna' expressed will be an important part of this work. I will use the World Wide Web as a historical archive, as a cultural geographer might use diaries and private letters and newspapers for research. Most of the tourists mention the destination where they purchased their temporary tattoos, so the geography of recorded 'black henna' in tourist destinations can be mapped through time and place. A comparison of the discourse, the place, the year, and follow-up comments on these reports of temporary tattoos should reveal the evolution of the physical and cultural geographies of 'black henna' in tourism from 1997 to 2012.

Post structural theoretical approaches of 'othering,' rebellion, resistance, transgression, carnivalization, voyeurism, heterotopia, the Fascism of the skin, and the regimes of the body will necessarily be part of the discourse analysis. However, to concentrate exclusively on a post-modernist or radical body theory approach would not do service to the serious health consequences of painting people with PPD.

Approaches to the online commentaries will include orientalism, problems of the West consuming exotic culture,¹⁴³ in the complex interchange of the East simultaneously consuming the west. Through the World Wide Web and tourism, all producers and all consumers of henna culture are now in an interactive global web, all sides borrowing from the other. A henna artist in the Punjab has taken images by henna art by artists in the UK, Canada and USA to advertise his own work, and that he guarantees the stains will be black.¹⁴⁴ Two of the artists whose works are displayed on this street vendor's sign are Riffat Bahar and Kiran Sahib. Both of them grew up in and live in the greater London area; their parents migrated from South Asia. One artist is

Kim Brennan, from Winnipeg, Canada, who is of mixed European and Irish descent. She attends a Hindu temple and enjoys the culture of South Asia. These women are all accomplished henna artists but live, and have always lived, in the west. A Marxist binary analysis of cultural production and consumption is rendered implausible because, through the World Wide Web, henna artists view and borrow from each other in a constant global interchange. Once online, henna memes replicate rapidly and horizontally. Clients may bring photographs of henna from anywhere in the world to a henna artist and request that they do similar work; henna artists may download images of henna from anywhere in the world and offer similar work to their clients. Henna is a popular cultural consumer product in many venues. The consumption and production is complex and globalized, the consumers motivate the producers, and producers encourage consumption. The injuries caused by 'black henna' may be approached through a medical cause-and-effect analysis, but the cultural and economic understandings of henna and 'black henna' are fluid and nuanced.

Approaching 'Black Henna' through the Geographies of the Informal Economies of Street Vendors

The spaces of street vending in tourism other seasonal activity seems to have the greatest potential for injury through 'black henna,' and an understanding of this problem should give the greatest potential benefit. News articles and medical papers frequently mention that the 'black henna' injuries were initiated by a street vendor at a festival or in a tourist area.¹⁴⁵ Seasonal and temporary vendors are by nature itinerant and may have no traceable permanent address. Itinerant henna artists set up, have clients, and are paid for their services, but verifiable

documentation of business does not exist as they would in a licensed, insured, taxed, brick-and-mortar shop. With no specific information on the economic activity of temporary tattoo work in these spaces, other than the certainty that it exists, and exists in virtually every tourist space in the world, any structured economic analysis of temporary henna tattoo work is impossible. Verbal accounts indicate that that they work from day to day at their locations as long as they pay off whoever has ownership of, or jurisdiction over their location, and they do not cause any visible disorder.¹⁴⁶

A census of the artists is impossible because the artists may move every day. The number of clients they serve each day varies. The products they use are variable. A study of the 'black henna' artists in the areas of tourism in the Mediterranean found, "The study of substances used in henna tattoos presents unique difficulties. Patients have often returned to their country of origin when they present with a skin reaction. Tattoo artists change their location, owing to the illegality of the practice, and, when found, usually refuse to provide samples of the products used."¹⁴⁷

Because the datasets normally used in a structural analysis of an economic activity do not exist for 'black henna,' I will estimate some of these numbers based on my personal work as a henna artist, and other henna artists whom I know professionally.

Henna artists, working in either natural or 'black henna,' often spend a number of weekends every year working festivals, setting up in a different location every weekend.¹⁴⁸ In my experience as a henna artist working a table at a summer event, I average five minutes for each client, and I usually henna fifty people in one day. Henna artists whom I have observed, and with whom I am professionally acquainted; work at the same pace as I do, and in similar setups.

An artist, whom I observed in Millau, France, in July in 2004, operated an informal ‘black henna’ business in Saturday street market. He brought a small table, two chairs, an umbrella, pattern books, and signs advertising his work. He had a small bottle of powdered black hair dye. He mixed it with a few drops of peroxide, the activator for PPD dye compounds. The ‘black henna’ prepared, he soon had customers waiting. His first client was a girl who appeared to be about ten years old. He painted a black rose with PPD onto her right shoulder.

If this artist had a good day, he probably painted twenty-five people with PPD. If any of his clients subsequently had an allergic reaction, none of them would have had any way to contact him and show him that he had harmed them. Some of his clients might have had reactions within a month, and a few of those with a serious reaction might have gone to a doctor. The doctor might or might not have recognized the injury as being caused by PPD. Others, who might have had some minor itching might not have gone to the doctor, but, years later, an application of hair dye could cause an immediate and severe reaction, requiring emergency medical treatment.^{149, 150}

Approaching ‘Black Henna’ through Children’s Geographies

Children are not without agency in the geographies of body marking, henna, and ‘black henna.’ Academic and medical papers, online forums and blogs, indicate that children actively seek to mark, and take possession of their own bodies in their own places, in defiance of others who would enforce regimes of body and place upon them.¹⁵¹ Some of the markings are in resistance to adult demands that children should remain unmarked; piercing and tattooing children is illegal in most western countries. Though some medical papers propose that body marking in children is

a predictor of future self-destructive or socially rebellious behavior,¹⁵² the link is tenuous and based on the western norm of the unmarked body. Masks and face painting are popular items in children's cultural consumption, for Halloween and beyond, and are culturally well tolerated in carnivalized and heterotopian spaces. Stick-on temporary tattoos are on offer in children's consumables,¹⁵³ even as part of boxes of candy.¹⁵⁴

When children see a table of 'black henna' temporary tattoos on vacation, a heterotopia where the many rules of behavior are transgressed, they see a perfect opportunity to resist the passive unmarked body that normative western society requires of them. Parents often remark online and to media that the child pestered them relentlessly until allowed to get a 'black henna' temporary tattoo.^{155 156 157 158}

Tattooing is a privilege not only of adults, but also culturally assigned to the 'outlaw body' of transgressive, resistant, powerful adult bodies: rock stars, prison inmates, gang members. Children wishing to subvert the requirement that they be passive, unmarked, compliant, and submissive, may crave the external markings that communicate adult power, sexuality, and dangerousness. At the least, children often doodle on their skin with ink pens when bored in classrooms.

Though many people become sensitized to para-phenylenediamine through contact, medical studies suggest that children are sensitized more quickly and more dangerously through 'black henna' tattoos than adults are through hair dye.¹⁵⁹ Children sensitized by 'black henna' temporary tattoos have life-threatening reactions when they apply hair dye as teenagers with a home dye kit.¹⁶⁰ The sensitization to PPD is life-long, and has many potential negative health consequences.¹⁶¹

Parents discussing the black henna with media or online often emphasized that they felt that the sign saying ‘henna’ indicates that the marking was safe, natural and temporary. Parents were unaware of the risk, and the artists always assured them that ‘black henna’ was natural and safe.¹⁶² It is possible that many artists are genuinely unaware of the risks until a client returns with an injury or the artist becomes sensitized through exposure.¹⁶³

There is no information available on the age median or range of ‘black henna’ patrons. One might attempt to calculate from the proportion of people who post online about black henna, people do not include their age in posts, and posting cannot be considered proportional to the population in general. Children’s allergic reactions to PPD seem to be particularly severe compared to those in adults, and they provoke a strong emotional response of outrage in the viewer that is not seen in adults, and in addition there are discourses of guilt and blame to and from the parents. The cultural assumptions about children and the geographies of children are cast in emotionally charged rhetoric about the ‘black henna’ injuries, evidencing memes not only about children’s body scripts and agency but the dangerousness of the ‘distant other’ to children when away from ‘near and familiar’ spaces.

Many of the discourses of children’s ‘black henna’ injuries carry memes of dirty, foreign, dangerous places;¹⁶⁴ parents often state that the henna artist was at the pool in a four-star hotel, ‘everybody was doing it’ and ‘the artist looked clean’.¹⁶⁵ Of course, painting skin with PPD would be dangerous in any space, and the materials to make ‘black henna’ can be purchased with no regulation at any beauty supply store or drugstore. The meme of “children’s bodies in dangerous ‘other’ spaces” is so frequently repeated that it will become an important theme in tracking the memes of ‘black henna’ through media, blogs, and newspaper articles in this research.

In medical papers, news media, and parent's pronouncements, there is often a discourse of disability in children's injuries by PPD that does not occur when an adult is sensitized through hair dye or industrial chemicals. If a child is sensitized, PABA sunblock and related chemicals will elicit an allergic reaction, so the child is cast as a disabled body that must not play outside, not wear black clothing, play with black rubber balls or dye their hair. There is concern that the child is disfigured; there is much concern over whether there will be a permanent scar, or whether the child will need plastic surgery. In contrast, some boys appear quite proud that they have an obvious, attention-getting wound that will resolve to a manly scar. Many boys specifically requested that they have the 'black henna' temporary tattoo to wear home and shock their classmates with their dangerousness.

The parental complaint of 'we were not warned,'¹⁶⁶ is frequently repeated, announcing their sense of betrayal: they expected that the 'third space' of tourism be exotic yet harmless.¹⁶⁷ Parents and others often engage in lawsuits for compensation,¹⁶⁸ if not against the artist, then against the more physically established and presumably resource-laden venue.¹⁶⁹ The need for 'black henna' risk management is echoed in the frequent, emotional call by the medical community and news media for legislation and control of 'black henna' tattoo artists.¹⁷⁰

However, as most of 'black henna' seems to be done in the informal economic sector, is seasonal and transitory, legislation and control may be impossible

If only boys acquired 'black henna' tattoos, approaching 'black henna' through boys' geographies of gender, henna tattoos masculinities, becoming, and agency would be valid and productive.¹⁷¹ There is no information on what age or gender most frequently consumes black henna though news reports of injuries feature children from five to twelve years of age more than other ages, with females slightly outnumbering males. When boys or girls communicate about

their ‘black henna,’ and when others communicate on their behalf, I will include the geographies of childhood and gender as part of the discourse analysis in this work.

Medical journal articles and news media stories on injuries from PPD ‘black henna’ feature children more frequently than adults.^{172 173 174} If the definition of ‘children’ includes individuals up to the age of twenty-five, nearly all of news media feature stories on ‘black henna’ feature children.

There is no quantitative information on the number of children who acquire temporary tattoos on vacation nor a quantified proportion of exposures that result in permanent sensitization other than Kligman’s maximization test¹⁷⁵ which indicates that 100% of all subjects will be sensitized in five or fewer patch tests of 10% PPD; all ‘black henna’ pastes are in excess of 10% PPD,¹⁷⁶ and that children are more likely to be sensitized, and more severely than the adults in Kligman’s test.¹⁷⁷ Sharon E. Jacob, MD, presenting to the American Academy of Dermatology on black henna, states that there are ‘hundreds’ of children’s injuries recorded in medical papers.¹⁷⁸ There are undoubtedly thousands of unreported physicians visits and sensitizations. All of these injuries have occurred because of the globalization of the ‘black henna’ meme since the mid-1990s, largely in the third spaces of carnival and tourism, and none of them occurred from the application of natural henna.

Though there is little quantitative information on children’s injuries, the craft of black henna, itinerant vendors, and women’s economies, there is an abundance of qualitative discussion online about the existence of ‘black henna,’ so the evolution and replication of the *black henna meme organisms* may be traced through media. Since ‘black henna’ emerged into the tourist sector at about the same time that people were able to easily discuss henna on websites on the World

Wide Web, there is an accessible record of globalization of henna and *black henna meme organisms*. Memes, the ideas that constitute culture, may be preserved in the pathways of the Internet forums, blogs, websites and online vendors, the news media, and medical journal articles. Memes can be investigated through critical discourse analysis and through their replication and evolution across time and space in the ideosphere. This work, then, will be a qualitative evidencing of an epidemic of PPD sensitization caused by the cultural geographies of ‘black henna’ as it globalized between 1997 and 2014 through *black henna meme organisms*.

Positionality

When I entered the PhD program with the intention of writing my dissertation on henna, I attended an academic social gathering. One of my thesis advisors introduced me to a woman who was wearing clothing that announced she was a member of an ethnic group that claimed cultural ownership of henna. My advisor said, “Catherine is going to write her dissertation on henna.” The woman in ethnic clothing pulled me aside and said, “You can’t write a dissertation on henna! You’d have to *know something* about henna first!” Her sincere, committed, and visceral comment seemed to be from the position that no person born outside a henna culture could possibly know anything about henna, that even if an outsider acquired information about henna, that knowledge would be inauthentic and incomplete. I was not unfamiliar with the woman’s claim; it has always been the most frequent response when a person who is born to a henna culture sees me studying, discussing, or doing henna. John Locke and Thomas Hobbes affirmed the proposition that knowledge is first and foremost gotten by touch, sensations, and reflections.^{179 180} Henna in indigenous cultures is imbedded in family life and people from those

cultures learn henna as part of a complex of touch, sensations, and reflections that they have experienced,¹⁸¹ and regard henna as something that *cannot be known* apart from touch, sensations, and reflections.

My position in henna research is inherently contestable, and contested. I have been a henna artist, researching henna's history, traditions, and chemistry for twenty years. I wrote my master's thesis on henna. I run a business based on my knowledge of henna.

My understanding of henna is undeniably based in the west, specifically as an academic, raised and educated in the USA. I became interested in henna because I have a degree in illustration and have been a professional illustrator all of my working life. I approach henna as an artistic medium, a science of skin and stain, a complex of tradition spanning many cultures, and a history stretching back to the Bronze Age. I did not learn henna at my mother's feet. I do not have childhood memories of henna. I understand that people who grew up with henna at every family celebration have a cherished personal relationship with henna that I do not. I understand that many people reject my understanding of henna because they view my knowledge of henna as unnatural and inauthentic.

I chose to write on the qualitative history and epidemiology of the memetics of 'black henna' and the subsequent PPD sensitization rather than an anthropologically-infused research into the indigenous culture of henna. I am part of the west, have watched henna information stream online into the west, have participated in henna memetic dispersion in the west, and am privy to henna's development as a body art in the west, informed by, but separate from, henna indigenous culture.

I have been interested in henna since 1991 when a friend from Israel introduced me to henna. She was familiar with natural henna body art and traditions and was homesick for henna, as it was brought out at every festival, wedding and special occasion in the Israeli Yemenite communities. She brought me a henna cone from an Indian grocery store in Cincinnati, Ohio, because she knew that I was a professional illustrator and she thought I could draw with henna on skin. I drew with the henna on her arms, and the henna stained her skin brown. She told as much as she could remember about the use of henna in Israel between 1950 and the 1970s, when she said it had largely gone out of fashion and was used only by the old women in the villages. I was fascinated and wanted to learn everything I could about henna.

I was teaching at Kent State University at the time and took my curiosity about henna to the research library, and found no specific references to henna body art other than those in Westermark's books on Morocco¹⁸². Persisting, I found brief mentions of henna in colonial travel literature in the library, images of stained hands in Persian miniature paintings and other parts of the Asian subcontinent, Africa, and the Middle East, and was able to borrow a copy of Jogendra Saksena's work on henna and mandana in Rajasthan.¹⁸³ I kept a box of photocopies of everything I could access, but information on henna in the English language publications was so sparse as to be nearly non-existent. I persisted, asking about henna everywhere I could find a Turkish, Indian, Pakistani, or Palestinian grocery store.

I found *The Henna Page Forum* online¹⁸⁴ in 1997, near the beginning of online discussions of henna. I posted actively on the forum for many years, before being charged with maintaining and developing the website, *hennapage.com*. The originator of *The Henna Page* was Jeremy Rowntree, PhD at St. Catherine's in Oxford, and the tone of the *Henna Page Forum* often had a formal and analytic undercurrent as opposed to radical and voyeuristic tones in *BME*, the online

body modification forum and website.¹⁸⁵ The *Henna Page Forum* management policy avoided participating in claims of cultural ownership and took inquiries into the historical and scientific aspects seriously.

Many people came to the *Henna Page Forum* with questions about injuries from ‘black henna,’ and many others came asking how to make ‘black henna.’ These early online discussions on *hennapage.com* were critical in the initial development of the online memes of ‘black henna.’

During the years that there have been Google rankings, *hennapage.com* has always been ranked number one in searches for henna, so *hennapage.com*, and my participation in and ownership of it, have been influential to the western, English language understanding of henna. During the month of January 2012, there were more than sixteen thousand visits to the index page of *hennapage.com*. Eight thousand five hundred visits were from the USA, and two thousand were from the UK and Canada.¹⁸⁶ The *hennapage.com* ‘black henna’ information index page received were an average of more than five thousand hits per month between May of 2011 and January of 2012, with half of the hits coming from inside the USA, and a fifth from the UK and Canada. The memes from *hennapage.com* about henna and about ‘black henna’ replicate vigorously across the USA, the UK and Canada but are only rarely accessed from the countries where ‘black henna’ is a part of the tourist industry.¹⁸⁷

Through the years of participation on the forum, and later ownership of the website, I developed online relationships with several hundred henna artists in the English-speaking world and was privy to the English-language development of the online henna discussion. Because of my long personal experience with henna, I can identify techniques and mixes of henna and differentiate between natural henna and henna with para-phenylenediamine in photographs and descriptions; this skill and experience will be part of my methodology.

I do have biases about henna in the west from the twenty years of experience participating in, and hosting, and creating online henna discussions and information. My understanding of henna is gathered largely from an academic, practical, and online flow of information, and my own experience as a henna artist. I was never hennaed for my wedding, for Eids, or for Diwali, which many people feel is crucial for authenticity. I acknowledge that academic and online flow of information facilitates some kinds of learning, and not of others, and my work is a product of those biases; my understanding of henna is not the same as a woman who grew up in a vertical cultural transmission of henna.

My understanding of henna is embedded in the western construction of henna where memes of henna and 'black henna' replicated horizontally, globalizing through books and online sources. I do not view henna as being 'owned' by any particular culture though I understand that many people, from many cultures, claim exclusive ownership of henna. I do not view henna as being spiritual or quasi-magical though I acknowledge that there are many who do.

As a westerner, an academic, and researcher, I tend to medicalize the problem of painting PPD 'black henna' on skin. Many people see the choice of 'black henna' as modern, fashionable, a matter of personal choice, and are not particularly concerned about the long-term health effects. By way of comparison, I live in a culture that enjoys plentiful bacon, sausage, cheese, eggs, and butter. I am not particularly concerned about my consumption of these foods, though I understand many physicians view diets high in fat and cholesterol a dangerous epidemic.

I have not worked as a henna artist for pay in several years, but I do own an online business based on henna as hair dye, *mehandi.com*. Many of the clientele are allergic to PPD, and seek henna as an alternative to cover their gray hair. I am involved with henna, and have done henna

body art. My research on PPD ‘black henna’ skin painting and in hair dye is tangential to my business and does not affect the profitability of my business in any way.

My position of analyzing henna culture while having had long involvement with henna is comparable to Victoria Pitt’s positioned work on body modification and plastic surgery;¹⁸⁸ and Dunja Brill’s work on Goth Culture,¹⁸⁹ both of whom were personally involved with the communities they studied. The personal engagement allowed them contacts, privileged information and intimate understanding of their subjects. Objectivity about, and distance from, a subject was once presumed to be ideal, and intimacy was to be regarded with suspicion, if not entirely deplored in academic research. Critical approach, and the understanding that all thought and investigation is positional, has emerged as an alternative to essentialist and structured approaches and allows the benefits of personal immersion to be engaged. I am embedded in the online henna discourse and acknowledge that I have had influences on this subject, and that I have biases about the subject. As I construct the qualitative history of the online memetics of henna and ‘black henna’ in this work, I understand that I have been a disseminator henna memes through *hennapage.com* and related websites, but that I am one among many.

CHAPTER II: CULTURAL GEOGRAPHY, THE IDEOSPHERE, AND HENNA

Cultural Geography and the Body

Geographers apply themselves to understanding physical and human geography: the space of physical systems of this planet, the life replicating upon it, and the sentient life that interacts with, alters, cognizes and organizes the space, and constructs its place within that space. The sub-specialists of human geography, cultural geographers, take a particular interest in people's mutually understood and expected behaviors within, beliefs about, and relationships to the landscape: the performances of culture and place.

When cultural and human geographers write space, they write bodies into that space. The body as object is written through understandings of how people script their own bodies and how people inscribe place onto their bodies.¹⁹⁰ People script their bodies as a means of cultural transmission, communication, and collective memory.¹⁹¹ People use dress, ornamentation, body modification, and grooming to signify membership in a group, readiness to participate in a group and to hold a hierarchical position within a group.¹⁹² People script their bodies with the assumption that other people can read and correctly interpret these scripts.¹⁹³ People who script their bodies in a way differing from normative behavior may be regarded as out of place; exotic, queer, or dangerous.¹⁹⁴ The unscripted or inappropriately scripted body, the exotic, queer, or 'dangerous other' body may be suppressed, rejected, marginalized, disciplined, or removed from dominant bodies.¹⁹⁵

Geographies once included scripted bodies illustrated in place with the same attention to detail as the climate, rivers, boundaries, wildlife, and place names written into space.¹⁹⁶ Carl Ritter, Ellen Churchill Semple, and Ellsworth Huntington wrote bodies into place through environmental determinism. Their theories were later shunned in formal academic geographic writing as lacking scientific basis and regarded as politically unacceptable because of their use as justification for bigotry and colonialist propaganda. Environmental determinism's legacy of racism remains a source of discomfort to many contemporary geographers, creating a reticence to discuss the human body and body projects, or 'technologies of the body,'¹⁹⁷ though there has been some reemergence in geography of 'body as object' into post-essentialist critical cultural theories, by way of haptic geographies,¹⁹⁸ queer geography,¹⁹⁹ and women's geography.²⁰⁰ People do script their bodies as part of placing themselves, and people do read the scripts. The body, constructed and imagined into place, is an important aspect of culture and increasingly has a place in human geography.

The critical post-structuralist approaches of Foucault,²⁰¹ Butler,²⁰² and Soja²⁰³ transformed geography's ability to discuss the body and social inequalities, differences, 'other' without resorting to stereotypes and polarizing binaries. The body as a discursive subject has been increasingly explored in geographic journals of critical and radical thought since the turn of the 21st century. "*Gender, place and culture: a journal of feminist geography*," features articles on clothing as a negotiation of body in place.^{204 205} If the discussion of body draping is engaged, one might expect body markings to return to geographic studies after its long exile.

Occasionally, geographic articles mention incidentally that people use body markings to script and 'difference' a body in place. Beasley's article on Indonesian street children mentions that they tattoo as an expression of place and membership in their group,²⁰⁶ and Sui used a celebrity's

geographic tattoo as an example to demonstrate a point about the potential for popular culture and web technologies to integrate with geography.²⁰⁷ The subject of body marking is still mostly limited to the fields of medical, sociological,²⁰⁸ anthropological,²⁰⁹ or criminal studies.²¹⁰

In these fields, body differences such as height, gender, ability, and age are usually approached as morally neutral, but the discussion of body marking remains framed as ‘outlaw,’ positioned against the normal, legitimate and dominant, as carrying disease, self-destructive, and predictive of diminished future well-being.²¹¹

The omission of body markings from discourse may be a reflection of the age of the committees who write and review academic papers: the Pew Research Center found that 36% of Americans age eighteen through twenty-five have tattoos, and 40% of Americans age twenty-six through forty have tattoos,²¹² as opposed to the ‘over forties,’ of whom only 21% have tattoos. In the next three decades, we might expect that a larger percentage of geographers writing academic papers will have body markings or will be familiar enough with their friends’ markings to take a less dismissive view of them. If they regard their own and their colleagues’ body modification choices as individualizing and normative, they may engage the subject of body marking as a way of scripting the body into place, rather than as a moral deficiency and lapse into self-destructive behavior.²¹³

As commonplace as body marking is (and always has been), as important as body scripts are in positioning a body in place,²¹⁴ and as varied as these scripts are in traditional and global culture, it could be useful to find a way of discussing tattooing that is not pejorative; a way that approaches body modifications as a form of identity politics and construction of identity. Pitt’s post-essentialist perspective on body modification directs body-scripting discussion towards a

universal use of body surfaces as a canvas and a signifier of agency and engagement influenced by social context.²¹⁵ With this approach, body as object is, and body markings could be, again a subject for cultural geographic studies. Post-essentialist, qualitative, and critical approaches in cultural geography will be an important tool for discussions of body markings in this work. However, the shadowy indeterminacies of post-modernism²¹⁶ are insufficient to approach the public health problem caused by rapid globalization of henna and the substitution of para-phenylenediamine for henna.

Cultural Geography, Memes and the Ideosphere

Michel Foucault developed post-structural critical theoretical work on thought, proposing exploration of heterotopias and Edward Soja developed postmodern geographic approaches in the later decades of the twentieth century, proposing the exploration of *Thirdspaces* to address the shortcomings of quantitative, structural, and Marxist approaches to space and place.²¹⁷ Their work, and the work of other writers such as Babha and Oldenberg, addressed the limitations of quantitative and structural thought, becoming integrated into cultural geography as critical, post structural, qualitative discourse analysis rooted in sociology, philosophy, and linguistics. In other disciplines, an alternate way of considering culture emerged during the same decades that post-structuralism and post-modernism developed: the theory that there is such a thing as a meme, that a meme is a unit of cultural thought, and that memes replicate by imitation from one mind to another.

The concept of a unit of cultural thought, a meme, grew within the disciplines of evolutionary biology, brain science, epidemiology and mathematics. Richard Dawkins, an ethologist,

proposed the term ‘meme’ as a way of discussing cultural units that are cognitive parallels to physical genetic units.²¹⁸ A meme may be useful tool in cultural geography to identify belief and habit transfer without qualitative analysis, semiotics, value judgments, or fragmentation of intellectual position. A meme is not morally, politically, or functionally, either positive or negative. A meme is not, by itself, beneficial or harmful. A meme simply IS, and replicates, or fails to replicate, into other hosts. A meme has information content.²¹⁹ Meme organisms may have variable attributes, and these attributes affect memetic competition and cooperate in replication; some meme organisms will robustly replicate within a network environment (social group), some will fail to replicate, and some meme organisms become more effective replicators when they evolve within the network environment. In addition, the network environment co-evolves with the meme organisms; a belief replicates or fails within a social group, and social groups have a set of beliefs (culture) in which the group is socially invested and regard as their truths.²²⁰

Douglas Hofstadter²²¹ and Aaron Lynch extended memetic theory, independently terming the ‘ideosphere,’ a dynamic and evolving network of memes of hosted by human minds, spread by imitation and communication, as geographically locatable as the geosphere, the hydrosphere, the biosphere, and the atmosphere. The geosphere, hydrosphere, and biosphere have physical and chemical processes. The biosphere and ideosphere are inhabited by replicators that replicate (or not) in a dynamic relationship with the physical processes of the other spheres. Lynch developed theoretical and mathematical models for the ideosphere, contributing articles on these concepts to the online “*Journal of Ideas*” in the early 1990’s. In 1998, after long editing, Lynch published his theory of a dynamic ideosphere in “Thought Contagion: How Belief Spreads Through

Society,”²²² supporting it in the same year with epidemiological mathematics in "*Units, Events and Dynamics in Memetic Evolution*.”²²³

Between 1992 and 2001, scientists from psychology, neurology, cognitive science, and mathematics extended the theory of the meme as a unit of cultural thought replicating from mind to mind and attempted to set memetics within scientific standards of method and discourse. Daniel Dennett wrote "*Consciousness Explained*"²²⁴ through his perspective as a cognitive scientist. Susan Blackmore wrote "*The Meme Machine*"²²⁵ through her perspective of a psychologist, Aaron Lynch wrote "*Thought Contagion: How Belief Spreads through Society*,"²²⁶ through his perspective as a theoretical mathematician. Richard Brodie wrote "*Viruses of the Mind*,"²²⁷ through his experiences as mathematician and computer programmer. Other memetic theorists contributed to "*Darwinizing Culture: The Status of Memetics as a Science*" edited by Robert Aunger."²²⁸

In the early decades of memetic theory, there was an academic reluctance to accept memetics and occasions of outright rejection as a ‘meaningless metaphor’ and dangerous pseudoscientific dogma.^{229 230} For some skeptics, memetics is hindered by the difficulty of quantitatively defining and verifying the existence such of a thing as a ‘meme’ and because of the enthusiasm for memetics in popular media and fiction. In the first decade of the twenty-first century, memetics was gradually incorporated into the vocabulary and discourse of cultural anthropology,²³¹ psychology and animal behavior,²³² folklore and cultural reproduction,²³³ and cultural geography.²³⁴ By 2010, Eades and Lucas stated, “memes are both real and useful, with explanatory power across a range of disciplines, is far from controversial. Blackmore²³⁵ provides an account of memes that defends their power of explanation, usefulness, reality and robustness when applied to cultural transmission, an inherently vertical as well as horizontal and

oblique process.”²³⁶ McNamara demonstrated that it is possible to identify memes and memetic transmission by functional magnetic resonance imaging.²³⁷ The fact that a meme may not be a physical, finite object does not hinder the meme as a useful concept and tool of analysis in literature, culture, behavior, and the arts. This is an extension of Foucault’s claim in “*Archaeology of Knowledge*” that ideas do have emergence, discursive fields, replication, and dispersion.²³⁸ With the advance of the World Wide Web and social media, cultural memes have become trackable through time and place, as shown in Coscia,²³⁹ Shifman’s,²⁴⁰ and Zook’s²⁴¹ works; various methodologies of Web Memetics have the potential to further cultural geographic studies.

To these theorists, the meme is a unit of culture hosted by a human (or animal) mind replicated by imitation from one mind to another, evolving, mutating, and competing across spaces of the ideosphere.²⁴² A meme may have different scopes and complexities; there is not a rigorous definition of a finite unit, other than its original definition, “A meme is ‘that which is imitated,’ or that information which is copied from one person to another, and that which is imitated may be simple and finite or complex.”²⁴³ A meme has a spatial presence when it is hosted by a mind because the person supporting that mind occupies a point in physical space.

The World Wide Web is a vast meme repository and distributor because people post their memes (texts, audio, and images) online where they can be transmitted and replicated on a global scale. The expressions of memes as ideas, utterances, images, and other vehicles of culture can be spatially located through new digital technologies: people email, blog, tweet, text, upload, share, and post their memes as electronic data that can be searched, retrieved, and analyzed. The electronic evidence of these retrieved memes can then be mapped to show units of culture as they

move, replicate, are contested, evolve, or are abandoned in the flows and places of cyberspace.²⁴⁴

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Memetic analysis is part of information science and is becoming a valuable tool for cultural geography. This work will use memetic analysis through digital media using the black henna meme as its vehicle, following its physical, economic, medical, and cultural geographies as it replicated, evolved, and located through digital media between 1996 and 2014.

Locating Memes in the Online Ideosphere

Within a generation, a significant proportion of the world's population may be online, geolocated at every moment, and the data of their movements, biological activity, and thoughts can be logged, collected, and analyzed in real time. To the extent that people post their comments online in Web 2.0 applications, blogs, wikis, video sharing sites, hosted services, web applications, their thoughts are now trackable in time and space. Static websites are more searchable, but the moment and place of composition is less quickly determinable.

The harvesting and mapping of culture/memes online, footprints of human thought and culture, is a powerful new research tool for cultural geography.

Stamen Design is a commercial design and technology studio in San Francisco that produces cartography and graphic information. Many of its projects involve visualization of memes from online, crowd sourced, and public sources of information. It maps memes moving in time and space.²⁴⁶ Stamen Design harvests an ephemeral but recoverable resource: people text, post, blog, and share their thoughts, moods, and activities to all the people in their networks; their

friends are notified, and may respond, within moments. These networks ripple, reproducing memes through their echo chambers. The memes have velocity and geographic spread that has never been possible before. This information is a valuable resource for business and government. Stamen Design produces animated maps that track the electric traces of memes for MTV, Digg, Twitter, MSNBC, the London Organizing Committee for the Olympic Games, and *MoveOn.org*. The methodology of mapping thoughts is not dissimilar to mapping other things that move and change over time: Stamen constructed real-time hurricane tracking videos for The Weather Channel,²⁴⁷ moment-by-moment trading on the NASDAQ,²⁴⁸ and crowd-sourced crime reports in the Mission District in San Francisco.²⁴⁹

Caida, The Cooperative Association for Internet Data Analysis, produces Cuttlefish software programs capable of mapping Internet activity.²⁵⁰ The animated map of the Witty Internet Worm shows activity of the worm as it rendered infected worldwide hosts inactive within twelve hours. Online memes, be they code or thoughts, travel quickly, and can be mapped.

Mememes can gain credibility through replication within these networks, whether or not there is any truth to them. Mememes are already tracked through tweets and posts, and information diffusion through social networks is a subject of serious study by academics at Stanford University,²⁵¹ Indiana University,²⁵² the Institute of Human Science, Lyon, France,²⁵³ and others. For instance, with social network data retrieval, it is possible to define the epidemiology of the ‘Climate Change Denial’ mememe organism, how it is evolving, how it is competing and cooperating with other mememes, and what effects it has on geography, political lobbying, science education, and industrial investment.²⁵⁴ Chronological network tracking shows how this mememe is being disseminated, replicating, and evolving. The ‘Climate Change Denial’ mememe has a mappable social network history, with initiating points from individuals, corporations with

vested interests, spiritual leaders, chain emails, blogs and websites, and viral spread through interactive and broadcast media.²⁵⁵

Global connection does not imply that people are thinking more globally. The reverse may often be the case, as the network environments of social media seem to facilitate fragmentation and boundaries rather than connection.^{256 257 258} For the first time, cultural units, memes, can be counted and placed as they replicate, evolve, cooperate, compete, and become extinct; the chronology, momentum, and fidelity of replication, evolution, and force of ideas can be mapped.

When cultural geographers take advantage of the potential to model human culture in real time, they must engage memes, the unequal relationships of data, information, knowledge, and practice, and develop skills to use the Web as a medium of research. Matthew Zook and *FloatingSheep.org*²⁵⁹ have invented methods of mapping geotagged queries through Google to construct maps from keywords in cyberspace,²⁶⁰ with a critical approach to the unequal spaces, and have demonstrated that these maps are congruent with maps using older, physical methods of data construction.²⁶¹

As of November 2012, Oxford Internet Institute is hiring a researcher to work with Dr. Mark Graham on a project to study and map the geographies of user-generated content and participation on the Internet to gather and analyze Internet-related data and develop analysis and visualization techniques.²⁶² Though keywords are not always memes, memes can certainly be keywords. Mapping the memetic distribution among host memeplexes within the ideosphere can be used to construct a map of ideas, parallel to a more traditional map of material constructions of cultural geography.

The initiation and viral spread of memes, cultural units such as conspiracy theories and urban legends, has been used in research method in psychology,²⁶³ sociology,²⁶⁴ politics,²⁶⁵ media, and geography. This paper will track the meme 'black henna' from its earliest mentions on the World Wide Web and other media to its effect as a declared sensitization epidemic in 2011, and initial governmental and legal responses in 2012.

Locating the' Black Henna' Meme in the Online Ideosphere

This work will focus on black henna's memetic propagation online rather than a more traditional approach of the medical geography or economic geography of 'black henna.' The medical geography of black henna will be addressed in this paper, but little new knowledge would be produced by a dissertation simply summarizing previously done work. The economic geographies of black henna will be addressed in this dissertation, but they are also fairly well understood within seasonal informal economies, and that would again produce a secondary research paper. This paper will focus on how the meme 'henna' was conflated in the media with other traditional cultural body art practices, rendered to fit data transmission, received as information, and how that information was reassembled into the knowledge and practice of the unusually virulent *black henna meme organism*.

Understanding the information sequence of constructing and transmitting data through the Internet, receiving data and constructing information from the data sets, transforming information into received knowledge, and constructing practice from knowledge will be crucial to cultural geography as it engages in Web memetics in the future. Because there will be a vast resource of real-time geolocated human cultural knowledge available online, interpreting this

knowledge requires understanding how knowledge is constructed and propagated, particularly through digitally replicated memes.

The methodology in this paper will employ Michele Coscia's observations of meme organisms in network environments,²⁶⁶ Limor Schiffman's Memetic Web Analytics,^{267 268} John Paull's meme mapping,²⁶⁹ Derek Gatherer's charts and maps of geographic memetic distribution,²⁷⁰ and Aharon Kellerman's theory of information sequence: practice to knowledge, knowledge to information, information to data, data to transmission, data reception to information, information to knowledge, and knowledge to practice.²⁷¹ The subject of web analytics for this work will be the 'black henna' meme.

Cultural Geography, Memplexes and 'Black Henna'

A meme is a cultural unit, but it does not exist or replicate without context. In Foucauldian thought, a discursive field is the context of an idea or unit of culture, an interrelationship between language, social institutions, and subjectivity. Similarly, the memplex is the contextual web of ideas within which a meme organism may replicate and evolve as a cultural unit in a culturally complex system, a social network or network environment. Memplexes are shaped by environment, pre-existing beliefs, and experiences, as are discursive fields. Memplexes have limiting factors that create cultural geographic borders, such as language, material culture, class and gender, as do discursive fields. A meme organism will replicate and proliferate into an accommodating memplex, as an idea will erupt from a discursive field. If there is no accommodating memplex, such as a language with terms to understand the meme, habits that enable performance of the meme, materials to produce the meme, as well as gender and class, if

such are necessary to the meme, the meme organism will either fail to reproduce or will evolve into a form that will more easily replicate through the network environment.

I provide here examples of meme organisms replicating or failing to replicate within social network environments: pigs are edible, dogs are edible, and alcohol and Coca-Cola are drinkable. In Jewish and Islamic areas, the meme organism of 'bacon and pork chops are delicious' is not part of the religious dietary law memplex, and is generally rejected by the local network environment. This meme may have very limited replication (other than as an act of resistance) because it is forbidden. In the most of the USA, the meme organism of 'dog meat is delicious' rarely replicates, because it is antithetical to the network environment's memplex of 'dogs are our friends and companions.' In Islamic, Baptist, and Mormon cultural arenas, the meme of 'alcohol consumption is enjoyable' has limited replication, other than as inversion and rebellion. The meme 'Drink Coca-Cola' has been replicated virtually worldwide, with 1.8 billion servings of the drink consumed every day. The only economic boundaries of the Coca Cola meme at present are North Korea and Cuba.²⁷² The meme 'Drink Coca-Cola' cannot easily be replicated or performed where Coca-Cola cannot be purchased. The proliferation and limits of pig, dog, alcohol and Coca-Cola consumption memes are not based on their relative nutrition. The fecundity, variation, or failure of memes is not necessarily tied to benefit or detriment to the host. Aunger demonstrated that food memes have a viral transmission that follows social pathways, and access to a meme organism does not imply an acceptance (or replication) of a meme organism.²⁷³

Ideas, memes, replicate into minds as viruses replicate into hosts. Memetics is the epidemiology of ideas, and the mathematics of viruses of the mind is very similar to the mathematics of viruses in hosts.²⁷⁴ Some minds are resistant to certain ideas, and receptive to others. Some hosts are

resistant to some viruses, and vulnerable or receptive to others. A meme will not replicate into every available mind; it will replicate into vulnerable or receptive minds. Globalization opens the pathways and flows of meme organisms into new places, where they replicate and evolve rapidly as do viral and bacterial contagions in new host populations.

The Memes of Body Modification and Globalization in the late Twentieth Century

The Modern Primitive aesthetic preceded and invigorated the successful proliferation of the black henna meme by popularizing bold, black tattoos. The popular book, *Modern Primitives: Tattoo, Piercing, Scarification - An Investigation of Contemporary Adornment & Ritual*²⁷⁵ seized people's imagination with photographs and ceremonies at the intersection of tattooing, piercing, ritual, anthropology, sado-masochism, and genitals. The practitioners displayed a disdain for western consumerism while consuming and producing merchandise, enthusiastically replicating the rapidly evolving physical and graphic manifestations of the Modern Primitive meme organisms.²⁷⁶

Practitioners, enthusiasts, and artists such as Hanky Panky,²⁷⁷ Leo Zulueta,²⁷⁸ Ed Hardy,²⁷⁹ and Chris Ranier²⁸⁰ were popular producers and dispersers of the Modern Primitive aesthetic and its variant meme organisms. Popular American and English rock stars, and other young people in the industrialized world acquired heavy tattoo work as a signifier of rebellion against maintaining a normalized body for the sake of future employment.²⁸¹

The adolescent penchant for rebellion evolved rapidly. As each shocking body adornment became a popular consumer item and lost its ability to shock, it was replaced by more shocking

adornment. Early online newsgroups, such as *rec.arts.bodyart*²⁸² propelled the propagation and escalation of body art memes.

Adolescents who wanted to imitate rock stars'²⁸³ markings of rebelliousness were often deterred by the pain, expense, time, or sacrifice of future social acceptability (or at least vocational acceptability and parental disapproval). If a temporary body marking could be made to imitate a large tribal style tattoo, it would satisfy the urge to imitate popular modern primitive black tattoo memes. The temporary tattoo meme satisfied both the desire to live the rebelliousness of having a tattoo, taunting school and other authorities, while avoiding the consequences of a tattoo.²⁸⁴

Henna was perceived to be natural (harmless) and temporary (without lasting negative consequences). Henna cannot reproduce the look of a black tribal style needle tattoo, but westerners were largely unaware of that. The first people who applied 'black henna' may not have been hairdressers, but they were aware that a paste of high PPD content hair dye, such as Bigen, can temporarily stain skin black. Black, highly concentrated hair dye was inexpensive, and it was widely available. Black henna meme organisms replicated easily into the network environments of western tourists, particularly adolescents, who had seen bold, black tattoos, coveted of them, but dared not go back to their parents, school, or work with a real tribal tattoo. The black henna meme would not have replicated without this material means of imitation.²⁸⁵ The techniques for darkening henna do not produce black on torso skin as desired by those who wished to imitate needle tattoos.

Optimism about the outcome increased the prevalence of 'black henna' because of the invisibility of risk. Even when people were aware that there might be injuries, they continued the practice.^{286 287} Sharot, Korn, and Dolan found that optimistic people's minds diminish the estimation of their personal level of risk, shown through tests of people estimating their own

likelihood of getting divorced or developing cancer.²⁸⁸ "It suggests the brain is picking and choosing which evidence to listen to. And despite how sophisticated these neural networks are, it is illuminating to see how the brain sometimes comes up with wrong and overly optimistic answers despite the evidence."²⁸⁹ The effect of optimism, or "bad things won't happen to me," affects memetic replication of black henna, in that if a person does not see immediate negative consequences, that person will be inclined to sell or purchase black henna, and deny the incidence of allergic reaction.²⁹⁰

This meme of 'black henna' is desirable and without risk, was often narrated on message boards by artists and vendors;^{291 292} denial of potential for injury was common.^{293 294} Vendors and artists did not see consequences because of the delayed reaction and the fact that reactions occur in some, but not all, of the clients,²⁹⁵ and they saw profits accumulate. Their resistance to the meme, "injuries result from application of PPD to skin" was parallel to the resistance to, "exposure to HIV in unprotected sex may result in AIDS." Their rejection of the idea that there might be harm and their continuation of mixing PPD into henna facilitated the growing number of injuries. The rejection of the idea that there might be harm from HIV facilitated the continuation of unprotected sexual behavior, and the rise in cases of HIV.²⁹⁶ A meme of optimistic belief, such as "I believe my 'black henna' is safe, profitable and beautiful," is parallel to "My partner appears healthy," facilitates the replication of memes that support that belief. These beliefs included politeness memes such as, "It's rude to ask what a henna artist has mixed into the paste," and "It's rude to insist on using a condom." These supporting memes facilitated the further spread of both memes and physical consequences of memes, or the spread of viruses and the physical consequences of viruses.

The most robust method of memetic replication is the direct imitation of another person.²⁹⁷ In terms of cultural evolution, it is generally advantageous to observe and imitate the group rather than puzzling out every decision one at a time. If person waits and carefully considers whether to run (when the others may be running from danger) or cautiously examines the usefulness of eating something that might be food (which the others are quickly consuming), that person's chances of survival are less than the person who simply mimics the behavior of the group without thinking too much about it. When a person sees a long line of people waiting to get black henna on a boardwalk, beach, or party, very basic memetic behavior of "I should do what someone else is doing" arises. The supporting justifications for seeing many people doing something are, "If many people are doing this, it must be desirable. If many people are doing this, it must be harmless."²⁹⁸

Many news articles on 'black henna' injuries repeat the same narrative, "The tattoo was done by a guy who works at the hotel. Because everyone else was having them done, we thought, 'Go on then, it's harmless fun.'"²⁹⁹

People choose to accept or reject ideas about body adornment through memetic social pathways, sometimes imitating a favorite pop star, a friend, or simply standing in line to purchase an apparently desirable item. "What is essential here is that what goes viral isn't what is most accurate but rather the sort of information individuals want to be a part of — that demonstrates we are in the know and offers us the best opportunities to add our own two cents along the way in comments and likes."³⁰⁰

Henna

Henna, *Lawsonia inermis*, is a small tree that grows in semi-arid tropical zones across North Africa, the Arabian Peninsula, the Levant, and South Asia. Henna is not indigenous to the western hemisphere. Henna does not survive freezing temperatures and is prone to plant diseases in wet tropical regions. Henna will tolerate extended droughts and very high summer temperatures. Henna's lawsone content is positively correlated with an environment of higher temperatures and lower precipitation.

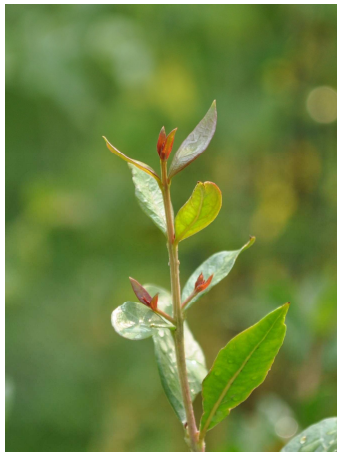


Figure 4: Henna, *Lawsonia Inermis* after summer rain; plant cultivated by Catherine Cartwright-Jones, photographed by Roy Jones, 2012

Henna is incorporated into the cultures of all the areas where it grows or where it can be easily transported. Muslims, Sikhs, Coptic Christians, Jews, Zoroastrians, and Hindus all apply henna body art for festive occasions, though the extent and specific customs of the art varies locally. Bridal henna is the most consistent body art practice across the groups. There was no traditional henna culture in Europe north of the growing zone, nor was there an indigenous henna culture in

the Americas, other than diasporic henna culture among colonies of workers transported from India through the British sugar industry.

Henna body art practices are reproduced through family events, particularly weddings. Henna memes replicated generation after generation, vertically, in place, part of regular, socially rich celebrations. Girls observed and imitated older women applying henna within their families.^{301 302}

Henna leaves are harvested, dried, powdered, and sifted for use as hair dye and skin art. Henna leaves have a dye molecule, lawsone, a red-orange molecule, 2-hydroxy-1,4-naphthoquinone. Lawsone normally occurs in henna leaves at 0.5% to 1.4% dry weight,³⁰³ though some henna powders have up to 3.4% lawsone.³⁰⁴ Lawsone will readily penetrate and bind with keratin without the aid of heat and mordents, which makes henna suitable for dyeing skin, hair, and fingernails.

Henna artists mix powdered henna leaves with a mildly acidic liquid, such as lemon juice. The acidic mix destabilizes the henna powder's cellulose while allowing the hydrogen atoms on the lawsone molecules to remain intact.³⁰⁵ The paste is usually allowed to rest 12 hours before applying to skin, then left on the skin two or more hours. When this paste is applied to the skin, the lawsone molecules migrate from henna paste into the outermost layer of epidermal cells where they may bind with the keratin by a Michael's reaction,³⁰⁶ or pool within the cells. 0.3% to 1.3% of the available lawsone penetrates the skin and enters living tissue and the blood stream, the rest remains in the outermost epidermal layer, which is shed by exfoliation in subsequent days.³⁰⁷ The stains are initially orange, but may oxidize to dark brown on skin if the skin is highly saturated with lawsone³⁰⁸ or if treated with heat, an alkaline, or other strong oxidizer.³⁰⁹

Artists often include a few drops of a non-polar solvent such as gasoline, turpentine, lighter fluid, paint thinner, or benzene to the mix enhance the stain,^{310 311} but few non-polar solvents are harmless to the skin, and benzene is teratogenic.³¹²

Essential oils containing high levels of monoterpene alcohols such as tea tree, eucalyptus, lavender, and cajeput are also effective at darkening henna stains, and are relatively harmless.³¹³ These tend to be favored among western henna artists who have posted their mixes online in English language websites, though these essential oils are more expensive per application.³¹⁴ Henna stains may oxidize naturally to near black on thick and highly keratinized skin such as palms and soles, but will not be darker than chocolate brown on any other part of the body.^a

Henna Memes Replicate into the West

Henna body markings, tattoos, and native garb have been a feature of orientalist imagery since the early 1800s, particularly in areas colonized by Europeans. Anthropologists and enthusiasts of North African and Middle Eastern culture such as Westermarck,³¹⁵ Besancenot,³¹⁶ Field,³¹⁷ and Gaudry³¹⁸ collected notes on henna's cultural associations and patterns in North Africa and western Asia during the early half of the nineteenth century. The postcards from colonial North Africa that flowed prolifically from travelers and soldiers into Europe often featured women in 'native costume' with henna and tattoos. Western anthropologists,³¹⁹ orientalists, photographers of exotic destinations, and tourists familiar with henna cultural areas had some familiarity with henna in the late 20th century.

^a If the surface of the skin is made very alkaline, as by fuming with ammonia, henna may oxidize to black, but this is an unreliable and unpleasant process.

Though henna markings were occasionally included as part of the depictions of the ‘exotic Arab woman’s body,’ information on the marking process and the materials to accomplish the process did not accompany the images.^{320 321} Henna was available as a product to dye hair in the USA from the beginning of the twentieth century; Clara Bow, a popular actress in the 1920s, and Lucille Ball announced that their famously red hair was created with henna. The FDA considered pure henna extremely safe as a hair dye, so safe as to be exempt from certification when imported as hair dye.³²² The henna shipped to western countries intended for use as hair dye was not well suited for use as skin marking: the products were coarsely sifted and the dye content was low, the products frequently had contents other than henna.^{323 324}

People posting on English language Internet forums and blogs who attempted to reproduce henna body art from the scant information and unsuitable materials available generally described unsatisfactory outcomes. Tubes of henna paste for skin ornamentation such as those produced by Rani³²⁵ and Shelly³²⁶ were occasionally available in the west at shops that carried halal meat and specialties for Eids,³²⁷ but they did not produce reliable results.³²⁸ In the USA, these products were often confiscated by customs³²⁹ because henna is allowed for used as hair dye but NOT allowed for use on skin as body art by the USFDA.³³⁰

Henna Memes Online

In late 1996, Dr. Jeremy Rowntree, IT Systems Manager at St. Catherine’s College, Oxford Department of Biochemistry used a RuBoard script to create the first online forum for the discussion of henna, *The Henna Page*, on the university’s server.³³¹ This accident of a mathematician’s personal curiosities about a Moroccan folk art seen on vacation,³³² and a forum

script that constructed posts and comments as independent linked HTML pages, shaped the online dispersion of henna memes in the west. Dr. Rowntree rarely commented on the forum, but the script and connectivity shaped the way henna memes proliferated onto the Internet. The script was in text, in the Roman alphabet, and initially without images. The discussion was in English, not in any of the languages or alphabets of the indigenous henna-using cultures. The geography of the Internet in 1996 had, and continues to have, areas of unevenly development, facilitating memetic spread through developed countries and those who can communicate in English. The vast majority of people accessing the “Henna Page Forum” were from the USA, the UK, Canada, and Australia because the vast majority of people who *could* both speak English and access the Internet were from these countries.

None of the countries where henna was an indigenous cultural practice ranked in the top fifteen nations of per capita Internet use. India was the only country with a henna tradition that had significant Internet connectivity in the late 1990s; many people in India could read and write English, so there was some replication of henna memes between India and western enthusiasts. There was very little potential for replication of henna memes between North African, Levantine and Arab users and western henna enthusiasts.³³³ These countries had the least Internet penetration, though they had complex and centuries-established henna cultures.

A map of internet connectivity in 1995 shows that memes from several countries with henna memplexes could not have reproduced in online discussions whatsoever because of complete lack of access: Mauritania, Libya, Western Sahara, Syria, Iraq, Yemen, Oman, and Afghanistan.

³³⁴ Proportionally, North America memes had the connectivity to proliferate more freely online than all other online memetic replication combined in the late 1990s. The North American

dominance has since lessened, but regions with indigenous henna memeplexes remain relatively unconnected.³³⁵

The memetic replication and evolution of henna memes online was a function of the connectivity of the global Internet architecture, which created an electronic hegemony. The online henna discussions of the late 1990s do not appear to have expressed intentional cultural imperialism or any desire to subordinate, suppress, or co-opt indigenous henna cultures; the people discussing henna online were genuinely curious about henna, eager to learn, though the ‘white’ enthusiasm for henna was frequently conflated with racism and oppression on a personal level,³³⁶ and still is. The online henna enthusiasts were not intentionally hegemons; the data flows and boundaries acted as hegemons, reproducing earlier colonial spaces. When people who grew up with henna traditions joined online discussions, some expressed strong feelings of their cultural ownership of henna and distaste for western enthusiasm, as one termed “cultural plagiarism.”³³⁷

The Internet developed unevenly³³⁸ for many political, social, and economic reasons. Because of the early accidents and coincidences of Internet development and one person’s curiosities about henna, the “Henna Page Forum” became the primary point of henna discussion on the Internet, and the early placement online made it the most interconnected henna website, maintaining first place in search engine rankings through the time of this writing. The “Henna Page Forum” became a ‘meme fountain’ for henna body art, proliferating memes, acting as a site where henna memes could evolve, often having thousands of viewers every day.

This uneven development of online henna discussions is reflected in the ClustrMap of visits to the *hennapage.com* during one day in July 2006. Each dot in the map indicates visitors from a geographic area; presumably each person visiting would absorb and replicate henna memes from

the website.³³⁹ The map shows that South Korea, though a dense hub of Internet connectivity has few visitors to *hennapage.com*; populous, well-connected areas in western Russia also show few visitors to the site. If there were no boundaries of connectivity to South Korea and western Russia, language boundaries may have deterred visitation, though many European visitors came to *hennapage.com*. There may be simply a Russian or Korean lack of interest in henna, a cultural boundary beyond which henna memes scarcely replicate.

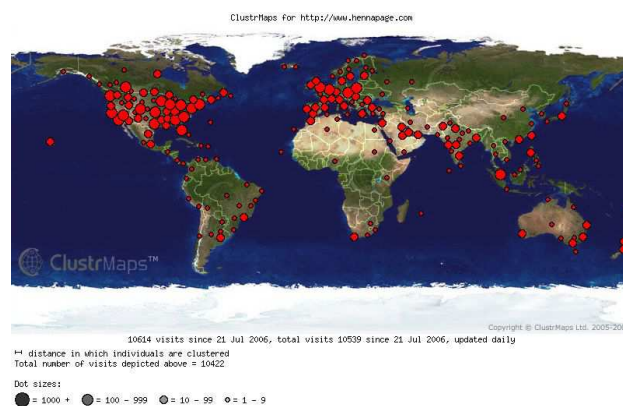


Figure 5: ClustrMap showing 10614 unique visitors by IP to *hennapage.com* on July 21, 2006

In addition to uneven global connectivity, the limitations of forum script affected the transmission of memes proliferating through the Henna Page Forum and early newsgroups. The forum and other news groups such as *rec.arts.bodyart* could transmit episteme' or what-knowledge, about henna through their scripts. Techne', or how-knowledge, was difficult to transmit except through lengthy verbal (and easily misunderstood) descriptions.^{340 341}

Even the books, articles, videos, and websites that eventually followed online were limited in their ability to produce phronesis, the physical, culturally placed knowledge of henna onto a

static two dimensional text document. Online memes could not include touch, smell, sound, or watching another person's movements mixing and apply henna through the forums, or in any of the static henna webpages that followed online. A henna meme could only replicate online the information that could be coded for transmission through a channel that connected a source with a receiver.

The transmitted information about henna would necessarily be data, abstract and intangible, rather than information gathered from 'hands on' experience with henna. Once the receiver accessed the data, that receiver would reconstruct the data as a meme into their own memeplex, producing knowledge. Henna memes online in the late 1990s replicated and evolved largely among western memeplexes. Henna data became memes online. Online henna memes were integrated into personal memeplexes as knowledges of henna. The newly produced knowledges of henna would inevitably be filtered through the attitudes, experiences, and material cultures of the new knowers, not those of people in indigenous cultures.³⁴² The knowledges were assembled by online recipients into beliefs and held as truths about henna. Henna memes online at the beginning of the twenty-first century inevitably evolved into a different understanding of henna than placed, indigenous, peoples' henna memeplexes.

In addition to occasionally attracting bemused reactions from people who have always lived in henna-using cultures,³⁴³ the production of new henna knowledges has raised concerns for postcolonial scholars in that it produces 'otherness' within the same borders as earlier colonial hegemony.³⁴⁴

Henna Memes in the Mediasphere

The activity on the “Henna Page Forum” was steady through 1997 prior to Madonna’s release of “Frozen” as a music video on February 23, 1998, in which she had temporary designs on her hands, described as being henna.³⁴⁵ “Frozen” topped the charts in United Kingdom, Italy, Spain and Finland, and was near the top in many other countries, ultimately selling 16 million copies worldwide. The henna meme organism rapidly replicated around the world through Madonna’s hands in “Frozen,” completely removed from the context of its indigenous culture spaces into the space of popular western culture. A second meme organism traveled with the images from the video: “black henna.”³⁴⁶

The patterns on Madonna’s hands were credited to Sumita Batra³⁴⁷ of Ziba Beauty on Pico Blvd, in Los Angeles, near Beverly Hills, Westwood, Brentwood, and Bel-Air, wealthy suburbs of west Los Angeles.³⁴⁸ Batra’s work was immediately in demand by trendy and glamorous patrons wanting an exotic, romantic, and spiritual experience;³⁴⁹ the company added new venues and hired additional workers from South Asia to accommodate the desire for authenticity.³⁵⁰

In March, 1998, Madonna released the album *Ray of Light*, which sold 20 million copies worldwide and won four Grammy Awards. She wore henna for her performance at the MTV video music awards in 1998. On September 10, she performed Shanti / Ashtangi, a traditional Ashtanga Vinyasa Yoga chant, with her hands, and the hands of the other people performing the Hinduesque multiple arms, hennaed.³⁵¹ The henna meme replicated through that performance and several media clips following. “*Ray of Light* helped make a mega-fad of mysticism and henna tattoos.”³⁵²

Not all people from India were flattered that their traditions were used in western popular music. The World Vaishnava Association group charged Madonna with blasphemy, though her publicist claimed that Madonna had no idea why anyone should have taken umbrage at her performance.³⁵³

The proliferation of the ‘henna body art meme’ through “Frozen” on February 23, 1998, facilitated the rush to market of several henna books and henna kits: *The Henna Body Art Kit: Everything You Need to Create Stunning Temporary Tattoos* was released by Aileen Marron on May 15, 1998,³⁵⁴ *Mehndi: The Art of Henna Body Painting* and the accompanying “Earth Henna Kit” was released by Carine Fabius of Lakaye Gallery on June 1, 1998,³⁵⁵ *Mehndi: The Timeless Art of Henna Painting* was released by Loretta Roome on June 15, 1998,³⁵⁶ *The Art of Mehndi* was released by Sumita Batra May 1, 1999,³⁵⁷ and *The Art of Henna; The Ultimate Body Art Book and Kit With Book* was released by Pamela Nichols on September, 1999.³⁵⁸ By the time Madonna performed for the MTV Video Music Awards, henna, as a cultural product organized for mass consumption, as text to be read, kits with decals and transfers to be purchased, was consumer-ready across the US and UK.

These books reproduced and expanded the orientalist memes of the exotic woman’s hennaed body. Describing the first time she had henna during a visit to a Pakistani woman, Pamela Nichols writes of her experience visiting the home of a Pakistani woman, “We were immediately sisters. We became goddesses, feeling with each stroke on our skin a glowing sense of beauty, power, strength and mystery. As the designs were painted on our bodies, we were transported magically into other realms. Through the art on our skin we were participating in something primitive and profoundly communal.” She continues, “Our imaginations soared with fantasies of desert tribes, mountain shangri-las and mermaids.”³⁵⁹ She praised henna, ““I have been

bewitched and seduced by henna, the ultimate aphrodisiac and supreme nurturing plant. Henna nurtures my body as a gateway to my dreams and has served this divine function through all time.”³⁶⁰

Carine Fabius also linked New Age and Modern Primitive memes with henna, “I like to think the reason the art of mehndi is so popular in the West today is that there’s true magic in it: loving, positive, enriching magic. There is magic in the practice, the rituals, the superstitions, the ceremony, and the culture surrounding it.”³⁶¹ Her product line, Earth Henna, had advertising promotions featuring nude women with henna patterns in poses similar to the Orientalist *Odalisque nudes*,³⁶² and the *jeune femme Mauresque* postcards of tattooed and hennaed sex workers from colonial North Africa.³⁶³

Sunaina Maira, Professor, Asian American Studies at UC Davis, wrote in a post-colonial critique of Indo-Chic culture of the late 1990s and cultural consumption of henna, “... the cultural contradictions of U.S. orientalism are increasingly manifest in everyday practices of consumption and commodification. ... there is a popular fascination with belly dancing, Arabic fusion music, and henna, not to mention other markers of the “East” that continue to ride the trend of orientalist cool. ... a “style of thought based upon an ontological and epistemological distinction made between ‘the Orient’ and (most of the time) ‘the Occident’” which is situated in histories of colonization, economic penetration, and academic voyeurism.”³⁶⁴

Sunaina Maira argues that Fabius’s statement that, “henna is a capricious, mysterious and elusive substance,” was expressive of ‘the new orientalism and imperialist feminist discourse about Asian, Arab, and African women.’ Maira found Loretta Roome’s book particularly troubling, saying that it “overflows with orientalizing pseudo-folkloric analyses of henna.”³⁶⁵ Roome

wrote that henna evokes “Women, eroticism, mysticism, privacy, religion, sacred ritual and ceremony, matrimonial and romantic love, folklore and superstition.”³⁶⁶ Maira criticizes Roome’s insistence that henna patterns have deep and sacred meanings, assuming that if her Indian women did not come forth with the meanings, it must be because they have been forgotten, were secret, or suppressed. Maira scorned Roome’s self-promoting and self-fulfilling platform that henna is an ancient secret to be ‘rescued’ by White American women; a metonymy for a pure, spiritual, and ancient mystical East abandoned by a misguided quest for modernity.³⁶⁷

More celebrities were photographed wearing henna.³⁶⁸ These photographs replicated the meme that henna was fashionable, natural, safe, temporary, sexy, and steeped in exotic, ancient ritual, while placing it firmly in the arena of popular western fashion.³⁶⁹ The henna memes replicated, and marketing ensued. Within a decade, hennaed hands became an immediately recognizable signifier of South Asian women, applied to products,³⁷⁰ protests, and play.³⁷¹

The proliferation of the henna meme was supported by the Modern Primitive assumption that embraced globalization, that all cultural rituals were available for individual consumption. An editorial comment in the modern primitivist publication, “In the Flesh,” claimed, “As citizens of a world that has become, truly, a global village, we have been blessed with access to an amazing reservoir of myths, rites, symbols, traditions and religions. It is impossible to ignore the inevitable merging of cultures and the spiritual/intellectual/aesthetic evolution implicit in gaining this vast body of ancient knowledge.” The commentary continued, “We each have the freedom to put our individual interpretations on any rites or symbols we choose because, so far, there are no thought police. Honestly, who among us feels qualitative to determine who is drawing inspiration and who is appropriating?”³⁷²

Via the modern primitive aesthetic, henna was not only an exotic cultural item to be acquired;³⁷³ it became a signifier for the acquisition of exotic products and of exotic people.

Henna was used as a signifier of all brown women,³⁷⁴ as if all brown women were identical,³⁷⁵ and whether or not any individual brown woman personally liked henna,³⁷⁶ and whether or not they lived within a culture of henna tradition. Maira suggests that as diversity and multicultural celebrations increasingly featured a staged “Night of the Henna,” the meme reproduced stereotyping, Imperialism, orientalism, and hegemony reinforcing the brown woman’s position as ‘other,’ masking the darker elements of globalization.³⁷⁷

Some western henna artists embraced the orientalist/mystical *henna memes*, integrating them into the “ill-defined and woolly conception of spirituality” of Modern Primitives,³⁷⁸ as evidenced in the production of henna workshops of ‘applying sacred *yantras*,’³⁷⁹ and ‘henna guided meditations.’³⁸⁰ One western henna artist claimed to make special henna pastes to “jump start’/recode” one’s DNA to heal disease by a ‘galactivational’ mehndi technique.”³⁸¹

As *henna memes* replicated and evolved in the west online and through the mediasphere, sometimes through simple curiosity and delight of an artist finding a new medium, sometimes as a new consumer trend, the meme became a signifier for globalization and multiculturalism. Henna sometimes joined orientalist memeplexes, sometimes modern primitive memeplexes, but one meme organism replicated rapidly directly from Madonna’s hands in her video, “Frozen,” the *black henna meme*.³⁸²

The 'Black Henna' Meme

Because most people in the USA were unfamiliar with henna body art in the late 1990s, it was easily conflated with tattooing and was cognized as some sort of temporary, harmless, exotic, and natural tattoo. The meme 'tattoo' was well understood, and, among enthusiasts for the Modern Primitive aesthetic, body art memes usually traveled with outlaw, exotic, New Age, quasi-tribal, symbolic, and black memes. Henna in its traditional culture does not carry these memes, but, as the *henna meme* moved into American culture, separated from the traditional henna-using cultures, it collaborated with an urban primitive meme organism, the tribal style black temporary tattoo.

The commercial henna kits products produced after "Frozen" evidenced the problems of henna in the US and globalizing marketplace. The modern primitive and new age memes of exotic, spiritual, bold, meaningful body markings were familiar and popular. The process of bringing henna from suppliers to kit-producing factories, to wholesalers, then to retailers, then into the hands of a consumer would inevitably result in a stale product that did not stain skin particularly well, so consumers would experience disappointing results. People had very little skill in drawing, and henna paste is not always a malleable drawing medium.

The "Earth Henna Kit" that accompanied *Mehndi: The Art of Henna Body Painting* was marketed at wholesale gift shows at the end of the 1990s. Representatives demonstrated the kit henna at drug store chains across the USA. This kit contained Moroccan henna augmented by walnut extract and produced a quick, reliable brown stain;³⁸³ but walnut products can cause acute dermatitis.³⁸⁴

The materials for all henna kits which included henna powder or pre-mixed tubes of henna were subject to seizure on import upon entry to the USA USFDA IA #53-19, 8/5/97 – Import Alert #53-19, which stated, "Detention without physical examination of henna based skin color, ... The article is subject to refusal of admission pursuant to Section 801(a)(3) in that the article appears not to be a hair dye and it appears to bear or contain, for the purpose of decorating the skin, a color additive which is unsafe within the meaning of Section 721(a) [Adulteration, Section 601(e)]."³⁸⁵

Since the US FDA classified henna as be illegal for use on skin, some producers wishing to profit from the popularity of henna body art produced paints and decals³⁸⁶ that emulated henna with ingredients approved by the FDA. The ingredient list for transfer decals in "Henna Tattoos" produced in 2001 by Dover Publications included "PVA (Polyvinyl Acetate, CoPolymer, Polyester Resin, Modified Varnish, Deodorized Petroleum, Silicon Dioxide, Aluminum Silicate, Iron Oxide, FD&C Yellow #5 and 6 Aluminum Lake, D7C Red #7 Lake, FD&C Blue #1 Aluminum Lake," with the statement, "All colors follow FDA cosmetic regulations."

The Temptu Ceremonial Body Art Kit produced in the late 1990s contained isopropyl alcohol, ethanol, talc, castor oil, cellulose, red #30, ultramarine blue, iron oxides. This kit included skin transfers printed on rice paper to be applied with isopropyl alcohol, and resin-based paints to fill in the colors.

The Temptu kit was sold at The American Museum of Natural History exhibition in New York City in 2000, "Body Art: Marks of Identity." This exhibition manifested the highbrow acceptance of the modern primitive aesthetic and enthusiasm for body art. Though the exhibition critiqued colonialism and encouraged cultural relativism, and the disruption of 'the exotic other,'

the gift shop offered decal tattoo kits, tattoo coasters, tattoo patterned boxer shorts, and ‘tribal face painting kits.’ Victoria Pitt commented, “What is implied here is that indigenous cultural forms are still available for Western consumption, and which both popular and museum fashion handily render prêt a porter. Apparently there are no limits of taste and sensitivity when it comes to consuming the Other, not even in a museum.”³⁸⁷

The ‘Black Henna’ Meme Manifests as Product

There was a global consumer demand for black henna as they had seen in ‘Frozen;’ consumers wanted to emulate modern primitive style tattoo patterns. They did not want the pale orange stains that are made by henna that has been left too long on the shop shelf, inexpertly mixed and applied. The decals could not create big, bold patterns; the rice paper transfer paper was fragile, easily wrinkled and tore, and made imperfect transfers. Entrepreneurs attempted to manifest the meme into product to satisfy demand for bold, tribal temporary tattoos, to formulate a quick and easy kit without risking henna cargo confiscated and destroyed by customs.

Mehndi Body Art in Long Beach distributed two products. One, the Mehndi Body Art Henna Tattoo Stencil Kit, included a packet of black powder, labeled Mehndi Body Art 100% natural henna. The Mehndi Body Art Colored Henna kit included a packet of black ‘colored henna’ had no ingredient declaration, though the instructions declared it to be 100% henna.³⁸⁸ With exposure to air, the black powder in the colored henna kit stained all adjacent contents black; this blackening is consistent with black PPD powder exposed to air.

Several producers found that PPD mixed into powdered cellulosic material (such as henna) made a workable paste that would leave a jet black stain on skin in about half an hour; they set up websites selling 'black henna' kits online. Amunez developed a 'black henna' product in Australia in 1996 and later relocated to Bali.³⁸⁹ Tarawa, also selling as *blackhenna.net* began selling black henna paste and powder online from France in 1997.³⁹⁰ In the USA, Amazing Body Art Supply followed in 1999,³⁹¹ and Black Henna Kits began selling online in 2001.³⁹²

Each of these companies advertised their products as the solution to the longed-for 'fast, black temporary tattoo', with quick profits promised for the artist.

Amunez advertised, "Unlike Henna and Mehndi paints, our black paint is a Super Black, which can last on the skin for up to 14 days. ... Amaze yourself, you don't have to be an artist, only tracing skills required, anyone can do it. Try our special offer DIY trial kit, over 50 tattoos lasting two weeks. This easy to use DIY kit comes complete with everything you need."³⁹³

Tarawa and *blackhenna.net* advertised, "You saw them on the beach in Bali, in Egypt, Seychelles, Australia, ect... We offers to you the same product of black temporary tattooing without any harmful product for the skin. Tarawa was developed a new product revolutionnaire as regards black temporary tattoo."³⁹⁴

Amazing Body Art Supply advertised, "Rake In The Cash With One Of Our Amazing Business Kits! Start your own henna tattoo business or add henna tattoos to your existing business with the supplies in one of our quick-start amazing Henna Tattoo Business Kits. ... Within 30 minutes after receiving it you'll be making professional henna tattoos Guaranteed! ... You'll be amazed at how fast the \$20.00 bills will start rolling in."³⁹⁵

Blackhennakits.com advertised, “THE SECRET IS OUT! We are the only source for professional grade black henna that produces realistic super black henna tattoos. Our black henna kit gives super jet black temporary tattoos that last up to three weeks and sometimes more. Get the product professionals henna artists use at fairs, festivals, beaches, concerts, and clubs. You can learn to be a professional henna artist for fun and/or profit.”³⁹⁶

Each of these ‘black henna kits’ PPD. FDA determined that the ‘black henna’ from *blackhennakits.com* contained 28% para-phenylenediamine.³⁹⁷ The Amunez ‘black henna’ temporary tattoo kit contained, “Ethyl cellulose, methosulfate, titanium dioxide, distearoylethyl hydroxyethylmonium, methylparaben, cetearyl alcohol, cetareth-20, and may contain: iron oxide, p-phenylenediamine, CI1623, CI15510, CI45410, CI44090, CI42510, CI11055, CI56059, CI12719, carmine, 4-hydroxypropylamino-3-nitrophenol.”³⁹⁸ The Tarawa ‘black henna’ kit contained, “Black henna paint powder: henna 50%, ethyl cellulose, carmine, para phenylenediamine, titanium dioxide, iron oxide.”³⁹⁹

Individual artists also discovered that they did not have to depend on ordering online black henna kits; they could use PPD in cheaply and easily available black hair dye to make their paste with higher dye contents than the legally allowable maximum, Bigen, though claiming to be 6% to be diluted to less than 3% when applied, contained 12.3 % para-phenylenediamine.⁴⁰⁰ Bigen was easily obtainable in beauty supply shops, and was often used by people to create ‘black henna’ temporary tattoos.⁴⁰¹ Other black henna products meant for hair dye were put into service to create ‘black henna.’ These products were often marketed as ‘natural’ and ‘herbal’ but contained 16 – 25% PPD.⁴⁰²

Other entrepreneurs found a straightforward source of PPD in industry. PPD is used in industry as a photographic developing agent and a chemical intermediate, a vulcanization accelerator and as an antioxidant in rubber compounds, as a dye intermediate, and as an oxidative dye for textiles, fur, and leather. Acute (short-term) exposure to high levels of PPD may cause severe dermatitis, eye irritation and tearing, asthma, gastritis, renal failure, vertigo, tremors, convulsions, and coma in humans. In this pure industrial form, p-phenylenediamine occurs as a white to slightly red solid or crystals that darken on exposure to air and is slightly soluble in water.⁴⁰³ Pieces of solid para-phenylenediamine were sold as ‘henna rock’ or ‘henna stone’ purported to be a natural stone⁴⁰⁴ gathered on the banks of the Nile.⁴⁰⁵ The product was also called ‘Turkish Rock’ or ‘German Rock.’⁴⁰⁶

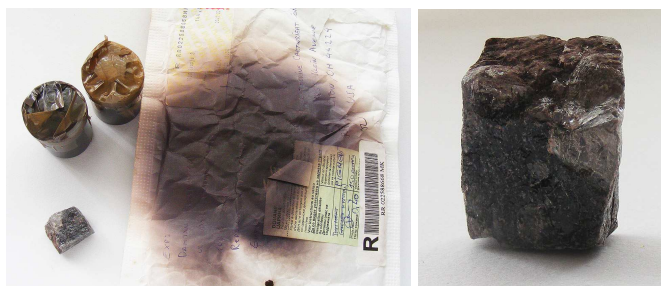


Figure 6: Henna Stone collected from artists doing black henna on the beach in Macedonia, with crushed and powdered samples stored in film canisters, acquired from private donor in 2007; owned and photographed by Catherine Cartwright-Jones. The PPD has oxidized to black.

According to informants, these ‘henna stones’ were easily available in markets in Turkey and Egypt and were harmless, natural products.⁴⁰⁷ Esen Özkaya and his team purchased six samples of henna stones from local herbal sellers and analyzed them using gas chromatography-mass

spectrometry (GC- MS). PPD was found in all of the six samples of "henna stones" at concentrations ranging between 84.89 and 90.90%. These were sold as "natural stones" by herbal sellers, and the instructions given were to crush the stone into powder first and then to mix it with natural henna, water, and hydrogen peroxide.⁴⁰⁸

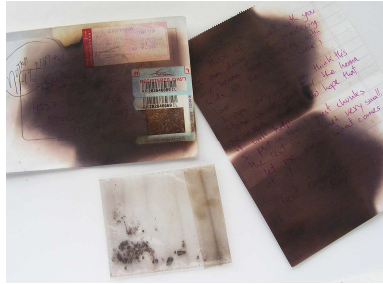


Figure 7: Crushed “Henna Stone” collected from an artist doing ‘black henna’ in Israel, acquired from a private donor; owned and photographed by Catherine Cartwright-Jones. The PPD has oxidized to black.

The YouTube video “Don't do a BLACK henna tattoo,” showed a person making black henna with henna stone. An investigator asked a street artist in Malta what he used to paint on the skin and how he made the henna made black. Three different times the artist responded that he used henna, hydrogen peroxide, and henna stone. When asked about allergic reactions and whether he was using PPD or hair dye in his mix, he denied using those and also dismissed the likelihood of an allergic reaction but stated emphatically that he uses henna stone and peroxide to make the henna black.⁴⁰⁹ The artist continued, showing the person inquiring how henna stone was mixed with peroxide to make black henna.⁴¹⁰ The videographer stated that it was his impression that the artist no idea that henna stone might be PPD, or that it might be dangerous.

Black Henna before ‘Black Henna’ Temporary Tattoos

There was a history behind the term “black henna” that lent credibility to the *black henna meme* and to the belief that ‘black henna’ was natural and harmless. Indigo leaves contain a precursor to a blue dye molecule, indigotin.

The powder of partially fermented, powdered indigo leaves, known as vashma or black henna was sold as black henna for the purpose of dyeing hair black. This product is neither henna nor black. When indigo leaves are partially fermented in order to convert the glycoside indican present in the plant to the blue dye indigotin, then dried and powdered, an indigo paste may be made and be applied over hair that has been dyed with henna; creating a rich black hair color, completely covering gray. Vashma was traditionally used with henna to dye hair black in the Middle East, Russia, and North Africa. Vashma indigo will not dye skin black; it may leave a pale gray-blue stain on the skin.

Avigal and some others still claim that all of their colors of henna hair dye are 100% pure henna, stating in their advertising that these colors, including black, are because, “new shrubs of the Lawsonia plant were discovered and developed.”⁴¹¹ This is not botanically possible. This mis-labeling may have been created to protect exporter’s proprietary knowledge of these products in the absence of patent registration in the late 19th and early 20th centuries, or may have been a problem created by miscommunication among exporting and importing languages.

The existence of natural, traditional products marketed as black henna made it plausible that other products marketed as black henna were also natural and traditional, though some contained levels of PPD high enough to be used to make ‘black henna’ temporary tattoos.

Other indigenous cosmetics added confusion and plausibility to ‘black henna’ temporary tattoos. Khidab and harquus are indigenous black cosmetics that are used in conjunction with, or as an alternative to henna in Yemen and North Africa, to create black temporary body art. Khidab and harquus may contain oak gall, ammonia salt, and copper compounds; these can cause serious allergic reactions and contact dermatitis.⁴¹² The practice of using these products does not seem to have reproduced into areas of tourism, but they lend credibility to the existence of traditional natural black henna.

Indigenous peoples of the rainforest areas of central and South America people stain their skin with unripe genipa Americana fruit, locally known as *huito*. This is processed and marketed in the West as “Jagua.” The commercial jagua stain is usually pale blue-gray at the outset but gradually oxidizes to darker blue-gray and exfoliates within a week. The jagua product has been marketed as a safe substitute for ‘black henna’,⁴¹³ but is not widely used by street vendors⁴¹⁴ because it is a relatively expensive product per application.⁴¹⁵ Jagua occasionally causes contact dermatitis and allergic reaction.⁴¹⁶

Because of coincidences, misunderstandings, and misinformation, the temporary tattoo *black henna meme* commoditized through the global ideosphere in the late 1990s, facilitated by the easy availability of para-phenylenediamine. The meme replicated rapidly through its resemblance to desirably rebellious permanent tattoos and easy entry into a profitable street vending application. ‘Black henna’ as a desirable adornment often outweighed the perceived risk even when the risk was known. The replication of the natural *henna meme* through the Internet geographies of the developed west was slowed by the difficulty of acquiring the materials and techniques necessary to create optimal results. The geographic boundaries of the Internet further hindered memetic flow between the English-speaking west and indigenous henna cultures during

the late 1990s and early twenty-first century. The prevailing modern primitivist assumption that all cultural rituals should be decontextualized and made available for global consumption permitted the *henna meme* to proliferate, be reimagined, and reinvented from a position of ignorance.

The replication of the *black henna meme* across globalizing areas of tourism has allowed the practice to continue year after year, causing PPD sensitization rates to rise steadily among visitors.⁴¹⁷ Artists who produce black henna temporary tattoos surely become sensitized and probably at a higher rate than the seventeen to fifty-eight percent of hairdressers who become sensitized during their work.⁴¹⁸ Western hairdressers wear gloves when mixing and applying dye to hair and the permitted PPD concentration in dyes must be below 6% by law. Street-side black henna vendors rarely wear gloves, and the PPD levels in their pastes are far higher. This being the case, there is probably considerable artist turnover from one tourist season to the next, so information about sensitization of artists and clients may not be passed along to the vendors who have newly discovered that the combination of a box of black hair dye and some drawing skills can be a profitable venture.

This work is a qualitative history, not an empirical study, because there are no records of how many people are working regularly doing black henna tattoos in the world today nor how many have been through the last fifteen years. There is no way to know how many people have been painted with PPD other than by the indirect evidence of injury and rising levels of sensitization. Online, one may watch a mirror of these activities reflected in the appearance of the *black henna meme*: the requests for 'black henna,' reports of 'black henna,' vacation pictures of 'black henna,' and the reports of inevitable injuries. With careful attention and methodology, one may

use a qualitative history to construct an epidemiological map of the *black henna meme* and construct a corresponding map of the epidemic of PPD sensitization.

CHAPTER III: METHODOLOGY

Methodology Part 1: 'Black Henna' Memes as a Subject for a Qualitative Historical Research Project

The methodologies of this paper are enlisted to construct the physical and discursive epidemiology of the 'black henna' temporary tattoo memes into a qualitative history. I will use the term 'meme' when I refer to a generalized cultural concept of henna and 'black henna.' I will use the term 'meme organism' when I refer to a specific form of a meme with its associated concepts, to focus on its evolution in a network environment, as does Coscia in his study on competition and success of a meme in a meme pool.⁴¹⁹ I will look for the evolution and variants of meme organisms, the human actions, and the consequences produced by the meme organism and their variants, especially as they replicate and evolve in the third spaces of tourism.

Coscia's approach to meme organisms, and the attributes that allow memes to compete or conflict with other memes in a network environment, is useful in this study because, in different environments, people have very different concepts of what henna is and is not. Henna and 'black henna' memes have evolving attributes that facilitate or inhibit their success as replicators as they evolve in their network environments. Their network environments co-evolve, adjusting to these evolving meme organisms. In chapters four and five, I will track the differential evolution of *henna meme organisms* through their different network environments and demonstrate the conflict this evolution has created.

The *black henna meme organism* replicated online through the network environments of virtual and physical spaces from the 1970s to the present. These meme organisms reproduced and evolved through observation, description, images, products, and sometimes through misinformation and misunderstanding in their environments. Because these memes inhabit human minds and the artifacts of human minds, and because minds and their artifacts have geographic locations, the human minds and artifacts hosting memes can be located and memetic geographies can be described. Through mappings and discourse analyses of online references to ‘black henna’ temporary tattoos, it should be possible to trace the epidemiology of the ‘black henna’ material practice and consequences to the extent that online activities simultaneously represent and reproduce the material world.⁴²⁰

The *henna meme organism* and its variants have different expressions within different environments, so the lack of a definable unit may be unsettling in the normal framework of analysis. The use of the word ‘organism’ may seem to some to be objectionably anthropomorphic, but, as Coscia shows, memes behave as organisms in that they are replicators that compete, cooperate, evolve, or become stable in environments of understandings.⁴²¹ The attributes of a meme organism vary and add to the success or failure of memetic replication within an environment. When a meme organism co-evolves in its network environment and becomes stable, with stable attributes, that meme becomes an element of knowledge within that environment and is regarded as a fact or truth.

Dawkins’s original definition of a meme is ‘that which is imitated,’ or that information which is copied from one person to another, and that which is imitated may be simple and finite or complex and disperse.⁴²² Memetics is frequently used to model mathematical algorithms in network theory, and researchers have successfully extended memetics as a research method in a

wide range of social and cultural research topics such as cults,⁴²³ popular culture,⁴²⁴ folklore,⁴²⁵ economic activity,⁴²⁶ public policy,⁴²⁷ suicide,⁴²⁸ urban legends,⁴²⁹ and public health.⁴³⁰ This project will not use mathematical algorithms because the World Wide Web archive is inherently ephemeral, and, in the fifteen years of tracking the *black henna meme* online, much of the data that would be necessary to trace the algorithmic progression of the *black henna meme*, as done by Coscia's memetic research,⁴³¹ has been lost to link rot, overwriting, and site abandonment.

FloatingSheep.org's⁴³² methods of mapping and charting user-generated geocoded data would be ideal for mapping the *black henna meme* tweeted in real time from summer beaches,⁴³³ but that would limit mapping to a single summer and to an area where prolific tweets could be monitored. Much of the older online material on 'black henna' is no longer supported, was not cached, and has been deleted from servers. The early webpages of 'black henna' were not geocoded; location often must be inferred. This work, spanning online material on 'black henna' from 1997 to 2013 is constructed within the limitations of the material available, approaching the chronological and geographic replication and evolution of the memes through discourse analysis.

Web Memetics

More than any previous medium, the Internet has the capabilities to disperse memes globally,⁴³⁴ spreading them virally through networks where they can be accessed and replicate into new minds.⁴³⁵ Schifman and Thelwall's "Assessing Global Diffusion with Web Memetics: The Spread and Evolution of a Popular Joke" introduced their Internet-based general method, Web Memetics, of analyzing the distribution and evolution of memes in time and space.⁴³⁶ I will use their approach to form part of the methodology, as this technique allows the memes to be

mapped and charted to show the replication, dispersion, evolution, variation, and effects of the *black henna meme organism* through different flows using methods adapted from Zook,⁴³⁷ ⁴³⁸ Paull,⁴³⁹ Schiffman and Thelwall.⁴⁴⁰ I will use Coscia's theories of co-evolution of memes in the environments of networks to show how henna memes diverged, evolved, and were contested at boundaries of understandings.⁴⁴¹ I will combine these methods of meme mapping with qualitative discourse analysis, using the web pages retrieved through Web Memetics as the historical archive.

Memes and Cultural Geography

Cultural Geography often concerns itself with the effects of the movement of beliefs, goods, and social practices through time and place, and the adjustments that occur in globalization or migration, of culture. Studies in cultural geographies have often been constructed through interviews, diaries, observation, sampling, surveying, and group discussions. Virtual observations of such processes can presently be done online. Viewing subjects online permits the observer to not intrude into the dynamic of the interactions and to view months and years of interactions, but it prevents the observer from asking questions. Cultural geography may be studied virtually as it can be in person, and, though there are differences in virtual cultural geography from traditional methods, the differences are manageable.

Memes are units of culture,⁴⁴² so a cultural geographer may define the units of study as memes. If a meme is a unit of culture that can be located, replicated, and dispersed through repetition, then cultural geography, as a study of location and dispersion of culture, has a potential engagement with memetics. Zook maps such units of culture through scripts developed to locate

and map through Google maps,⁴⁴³ Twitter hashtags, and tweets in short, well-defined time frames, demonstrating “that mappings of virtual representations of material practices are important tools for understanding how online activities simultaneously represent and reproduce the material world.”⁴⁴⁴

Memes and Henna

Henna may be considered a meme as well as an artifact because a meme is a replicating communicative convention, practice, and cultural work⁴⁴⁵ transmitted from one individual to another by imitation. In this, it is similar to replication of memes through folklore⁴⁴⁶ and art.⁴⁴⁷

Henna is a form of ceremonial body art, a cultural meme that has replicated vertically since the Bronze Age in North Africa, the Arabian Peninsula, the Middle East and South Asia. Henna body art was replicated through direct observation and imitation in family settings during significant social events such as Eids, weddings, circumcisions, and festivals. These were largely situated societies, and henna memes replicated vertically, in place, through children’s and adolescents’ prolonged cultural apprenticeship to their parents and others in their communities.⁴⁴⁸ These situated henna memes did not replicate far beyond the geographies of the people’s place, their migrations, and the growing zone of the henna plant. During periods of economic interaction between cultures with henna practices and those to the north, some information about henna passed in commercial goods, travelers’ reports, paintings and books. In the late 1990’s the henna meme began to globalize horizontally, first through periodical news and educational publications, then through motion pictures, the Internet, and other rapidly dispersing media.

Globalization of the Henna Memes

Online, *henna memes replicated* rapidly, but without the ‘placed’ cultural context and direct observation characteristic of vertical transmission. The *black henna meme* also replicated online, spawned from the misconception that there was such a thing as ‘black henna’ and the conflation of tattoo and henna body art. The first task of this project is identifying the origins of the *black henna meme* prior to 1980 and tracking its media presence chronologically and spatially from the first indications PPD was being used to create body art to its recognition as a global public health problem 2010. Memes may be either detrimental or beneficial to the people whom they inhabit; both dangerous and useful ideas can, and do, proliferate. The harmfulness or harmlessness of a meme does not necessarily affect its ability to replicate from one person to the next.⁴⁴⁹ In the case of ‘black henna,’ the global reproduction of the meme can be tracked also by the injuries it causes.

Approaching the World Wide Web As an Archive

Though one branch of academic memetics study is based in mathematical analysis of networks,⁴⁵⁰ I will approach the memetics of ‘black henna’ through methods more commonly used in cultural geography: qualitative and quantitative analysis of an archive, following the recommendations for assessing evidence in historical geography in Michael Roche’s article, “Historical Research and Archival Sources.”⁴⁵¹ The web can be used as an archive for qualitative research in cultural geography, as easily diaries, rutters, newspapers, broadcasts, and magazines. The searching is somewhat simpler, through online search engines, which allow vast numbers of webpages to be searched and displayed. The web archive is ephemeral, and webpages may be

overwritten or be abandoned, but rutters, newspapers, broadcasts and diaries are ephemeral as well. Roche's list of challenges is not dissimilar in physical and virtual materials: some documents online and in archives are legible and some are not. Some are retrievable and some are not. Some have a high level of veracity and authority and some are spurious and trivial. I used "The Historian's Standard Questions of Documents" presented by Roche as part of qualitative webpage analysis:

1. "What was the writer's bias?"
2. What was the writer's situation and intention at the time of writing?
3. What were the writer's opportunities for knowledge?
4. What were the writer's general standards of truthfulness?
5. What powers of critical observation did the writer usually bring to bear (was the writer credulous?)
6. What was the writer's framework of ideas and what did certain words mean when used by the writer."

The web has similar structural and preservation problems as other archives. Some information is facilitated and some is hindered by bandwidth, alphabet, and script. Some webpages are preserved and some are lost through accidental server crashes or abandonment. There are formal and informal fields of discourse and positionality to be taken into consideration. I will use qualitative analysis to approach these problems in many aspects of this paper; qualitative analysis is an applicable approach when the researcher cannot present the archive as necessarily complete or representative.

I believe the World Wide Web is a suitable place to trace the memetic spread of 'black henna' for several reasons. The global proliferation of the *black henna meme* in 1997 coincided with a

period of rapid proliferation of personal computers connecting to the World Wide Web, so the replication of the meme is preserved in online archives. Because henna body art largely is practiced in the seasonal informal economic sector, very few records of this period remain other than web pages archived on the Internet. Little formal attention was paid to henna: a few popular 'how to' books were published following the popularization of henna in 1998, and a single academic paper, "Henna and Hip Hop: The Politics of Cultural Production and the Work of Cultural Studies"⁴⁵² was written. Henna body art was widely dispersed, though the performance was dilute: English-speaking artists often commented that they are the only person in their area doing henna. The World Wide Web is a very deep archive, but it can be easily searched through search engines for relevant material, so sparse, dispersed evidence is not an impediment to study. Henna body art is also ephemeral: the stain is exfoliated from the skin in less than one month. Unlike physical objects, infrastructures, or other more permanent media, there is no physical evidence left to study years after the moment henna body art is created. Ephemeral cultural arts such as historical dance and ancient music are notoriously difficult to research, but such can be reconstructed through secondary evidence. Web pages of online conversations, pronouncements, and images of henna body art remain live for years and can be retrieved for study. In this regard, henna information is more accessible than one might expect.

The Challenges of Archival Research on the World Wide Web

There are benefits and challenges to using the World Wide Web to research the *black henna meme*. One benefit is that the online utterances on henna are retrievable and the collection does not require notepads, recorders, or travel. Viewing a document does not alter the content.

Interviewers may alter the interview by their presence. However, unlike personal interviews, it is not possible to set up a systematic body of questions, or even ask questions of the author of the web page. Most pages are static, and interactive pages are often quickly out of date, out of sight, or abandoned completely.

One of the challenges of collecting research material from the World Wide Web for any researcher is the overwhelming and rapidly growing number of web pages. On December 7, 2010, a Google search for www returned 19,490,000,000 responses, a rough number of pages live online. Fortunately, much of this volume can be managed by the techniques of Web Memetics though not all areas of the web of the can be searched. *The Internet Wayback Machine*,⁴⁵³ a collection of archived pages from as early as 1996, is not presently searchable. Facebook⁴⁵⁴ is only partially searchable in 2014 because many participants limit public access to their posts. The Deep Web and the Dark Web, areas of the web that are passworded, private, or unlinked and not part of the Surface Web, are not reachable by standard search engines, and were not part of this research project.

Identifying Returns with Reasonable Certainty

One problem for this research to overcome is to be able to recognize ‘black henna’ with a reasonable level of certainty from a description or photograph. I use my twenty years of experience as a henna artist to assist these determinations. ‘Black henna’ appears different from henna in appearance, application, method and results. When people describe their experience with temporary body art, they often mention something in terms of time, materials used, length of time that the paste is on the skin, the duration of stain, color of stain, the sensation of the paste

on the skin, or the smell of the material, that indicates whether they are referring to henna or 'black henna.' When there is insufficient information to make a judgment of whether or not a particular incident involves henna or 'black henna,' I will exclude it from this study.

Henna paste is always some shade of green, though the color in the photograph may be very dark green as it dries. Artists often have orange stains on their hands from working with henna.

Henna paste frequently cracks when drying. When henna paste flakes off, the skin is stained orange. Henna stains are darker on palms and soles and lighter on arms, legs, and torsos. In text descriptions, the person may mention that the henna darkened over several days. When people describe the scent of henna, they may mention that it smells like herbs, or, if the artist has mixed petrol or paint thinner in the paste, they may mention that smell. People may mention that they were told to keep the henna paste on the skin for several hours. Many henna artists do something to seal the henna onto the skin, such as dabbing it with lemon-sugar.

There are a number of characteristics in images and texts that indicate a temporary tattoo was made with PPD, not natural henna. 'Black henna' paste is always black. Artists often have black stains on their fingertips when they work with 'black henna.' When 'black henna' paste flakes off, the stains are black no matter where they are on the body. 'Black henna' paste usually does not have a scent. Artists do not seal 'black henna' to the skin with lemon sugar, nor do they advise people to keep the paste on 'for as long as possible.' The person may describe subsequent itching from 'black henna,' or the artist may mention that some clients experience allergic reactions.⁴⁵⁵ If the artist mixes the paste with peroxide, or wipes peroxide onto the skin after painting it, part of the activation of oxidative permanent hair dyes and the mixture may be assumed to contain PPD or a closely related chemical. Mixtures containing henna stone, Turkish stone, German stone, or Bigen or Piko contain PPD, so, if there is a mention of these being used

in henna, one may conclude that the mixture contains PPD. If there is information accompanying the image that mentions that the stain is black, or that there is itching,⁴⁵⁶ blisters, and discomfort, the paste is almost certain to contain PPD.⁴⁵⁷

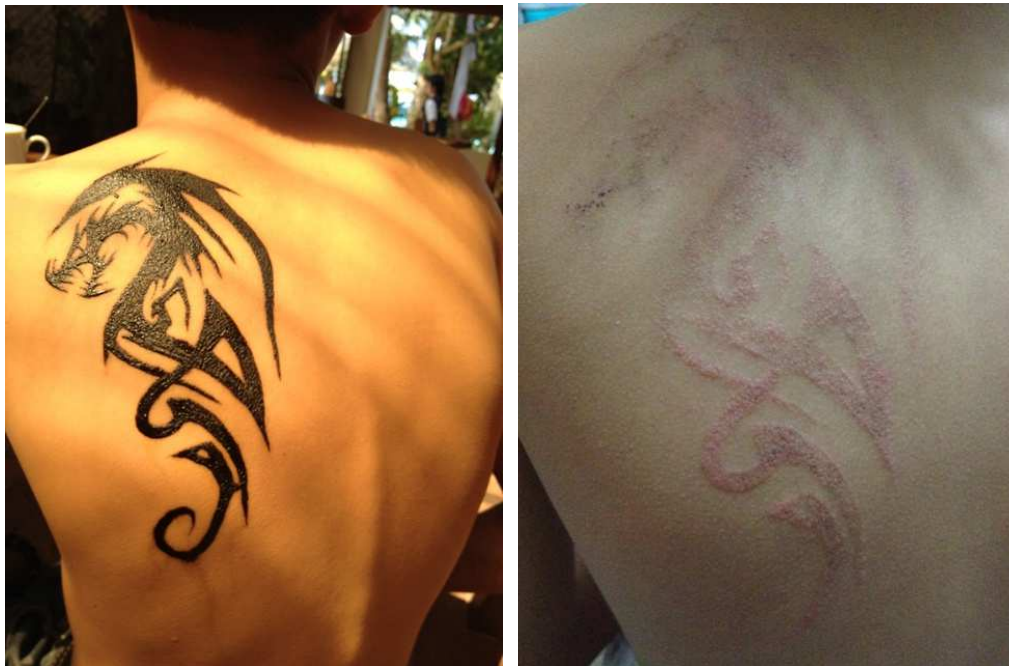


Figure 8: Before and after images of ‘black henna’ showing delayed hypersensitivity reaction of PPD painted on skin.⁴⁵⁸

A few people are allergic to lemon juice, lavender, tea tree oil, or other common components of henna paste, but the description of the itching is different. These additives usually cause sudden generalized itching and do not cause a hypersensitivity reaction with blistering in the precise area of the pattern.

To demonstrate determination of ‘black henna’ in an area of tourism, the Figure 9 is a useful study, one of the images from one hundred eighty-eight returns on search of ‘Borocay henna’ on

flickr.com. This image, by Doryll Medroso, posted on *flickr.com* was available in a larger size (1024 x 687 px), with enough detail to identify indicators of a PPD mix. The paste being applied to the client's back is black. There are black stains on the artist's finger. If the artist were working with natural henna, the stains would be orange. The pointed stick applicator is unusual for a henna artist, but not impossible. Because the stick is stained black, not orange or brown as would be the case if the artists were using natural henna, one may interpret the artist is using the stick to apply para-phenylenediamine instead of henna. The mixing cup often used for a PPD mixture; an artist mixes up a small amount of PPD with hydrogen peroxide to activate the oxidative dye. Natural henna would not be mixed in a small cup just before application; there would be insufficient time for dye release necessary to produce a dark stain. There is a smudged area on the client's back that is black, not orange. I believe that these details indicate this body art is 'black henna' containing PPD, though the person has tagged the photo, "henna," without further description.

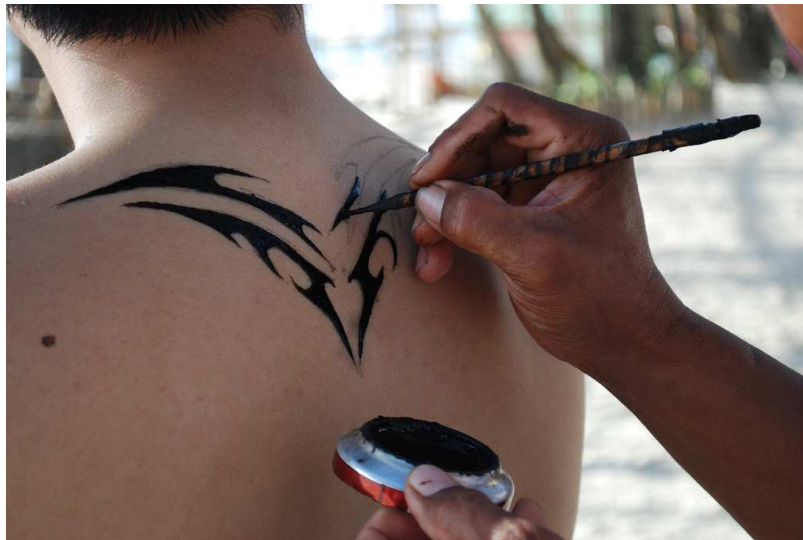


Figure 9: Doryll Medroso's Henna in Borocay⁴⁵⁹

SuzyQuozy posted images of her Borocay ‘black henna’ on *Flickr.com*.⁴⁶⁰ The artist’s application method and stains on his hands were again consistent with the mixing and application of PPD and are not consistent with the mixing and application of henna. SuzyQuozy’s subsequent picture of a black stain on her hands when she removed the paste confirms that PPD was applied to her skin.⁴⁶¹

On January 11, 2013, I entered the search terms of “henna” and “Philippines” into *flicker.com*, which produced one hundred forty-one returns. Of these returns, I counted images that appeared to be of or by tourists in vacation areas. I found four images of temporary tattoos that I could determine with reasonable certainty was of natural henna. There were twenty-one vacation images that seemed ‘probably’ to be ‘black henna,’ but there was not sufficient detail to be certain. There were seventy vacation images that had characteristics of body art made with PPD. The remaining images were mistagged, or otherwise had nothing to do with people on vacation getting temporary tattoos. Twenty-eight were tagged as being taken in Borocay.⁴⁶² Four were in Cebu, three in Iloilo city, and the rest were on other beaches. The dates ranged between 2003 and 2012, with the images most uploaded in 2007, 2008, 2010, and 2011.

Images separation from their context, uploaded, and tagged on *flicker.com* limits what can and cannot be done in terms of charting and mapping, as the random deposition of fossils limits what can be charted and mapped in paleontology. It is possible to demonstrate that people are being painted with PPD in a particular tourist venue at a particular place in time. It is possible to count these places year by year. By gradually assembling all of the mentions of ‘black henna’ in tourist locations, a series of maps can be constructed. Though limited by the inequality of people’s access to the Internet technology required to take and upload images, as well as

people's willingness to discuss their vacation and show off pictures online, these maps should mirror the epidemiology of black henna in tourism.

Navigating Around FUDD, Trolls, Sockpuppets, and Internet Jackholes

When the Internet was initially developed, trust and reciprocity among the users (a small closed academic community using ARPANET between UCLA and Stanford in 1969) could be assumed.⁴⁶³ The open network structures of TCP/IP (Transmission Control Protocol/Internet Protocol) were developed in the 1970s and DARPA net migrated its hosts from NCP to TCP/IP in 1983. These protocols were based on the social construction that information “wants to be free” and that the assumption that people using the network could be trusted. The network architecture is a “dumb network,” which is to say, “all intelligence is in clients and servers, and the network itself does not need to know anything about the contents of the bits.”⁴⁶⁴ The dumb network allows misinformation to be transmitted as easily as information; inevitably, as the World Wide Web expanded, users who could not be trusted were included with those who could.

Untrustworthy information is an obstacle for any sort of research, from faulty measuring devices to prevaricating interviewees. Misinformation on the Internet is neither more nor less difficult to identify than misinformation in other forms. If there is a large enough body of information for comparison, misinformation will usually appear ‘odd,’ and ‘oddness’ is a cue to double check the source, whether it be from malfunctioning scientific instrument or a bored, rebellious adolescent posting under a pseudonym.

Various misinformants on the World Wide Web are popularly termed ‘FUDD’s (a person who posts to instigate Fear, Uncertainty, Doubt, and Disinformation), ‘trolls’ (a person who writes intentionally provocative, inflammatory, or off topic posts to elicit an emotional response in social threads), ‘sockpuppets’ (assuming a false identity to mislead others), and ‘Internet jackholes’ (people who find the combination of anonymity and audience an irresistible invitation to misbehavior and rudeness). These disinformants post in threaded discussions about henna and ‘black henna,’ but since their memes are simply a reaction against more dominant or credible memes, their veracity, or lack of it, is irrelevant. They are the adverse part of the discourse and have their own position within the discursive field, or memeplex. Discursive positions often rise from, and give rise to, conflicting or contentious positions. Given that much of this research project method is discursive analysis, the fact that many statements oppose other statements is not, in itself, problematic. Memes do not have to be factual or even useful to be prolific replicators, and this project deals with the replication and evolution of memes. Genuine misinformation on black henna can be crosschecked with published medical papers.

Methodology Part 2: Methods of Web Memetics

Security and Research

For this large online webpage search project, I installed a firewall, security and virus software on my research instrument. Malware can infect a computer from an apparently innocent webpage.⁴⁶⁵ I created a nearline file backup, in anticipation of a hard drive crash, so I could quickly and cleanly retrieve information. Offline backups are an advantage if backup and access cannot be kept secure locally or must be accessed from different location.

Managing Relevant Web Pages by Bookmarking and Tagging

I constructed searchable documents to manage the positive returns of the *black henna meme* and related research subjects. As searches returned URLs, I recorded each page, copied relevant texts and listed keywords to separate areas of probable meme environments, such as news periodicals, government publications, medical publications, and tourism boards. I separated personal pages from official pages to compare discourse between formal and informal pronouncements. I tagged gender and age when mentioned, so I could compare understandings of temporary tattoos and injuries on infants, adolescents, and adults for discourse about vulnerability, choice, and parental responsibility. I tagged pages for countries and cities when mentioned, such as Mexico, Spain, Zanzibar, and Key West, to compare for discursive elements of tourism, Orientalism, and perceived threat when abroad. I entered more than a thousand URLs into the research account, and an additional thousand sources from LexisNexis, online academic journals, and PubMed and tagged them methodically, adjusting as necessary.

Searching the Archive, Constructing the Database

My third task was to search for web pages. I followed Schiffman and Thelwall's first step in Web Memetics: "Gather as many URLs of pages mentioning the memes as possible, using a combination of search engine queries until the returns were redundant and exhausted. This assesses the Web presence of the memes, and the URL list is used for subsequent analysis."⁴⁶⁶

From 2003 to 2013, the dominant search engine has been Google, though running parallel searches in other Bing or Ask engines occasionally reveal other sites. Google handles directly or indirectly through purchased content, 83% of all online searches.⁴⁶⁷ I ran each search until returns were saturated and only redundant pages followed.

A challenge for this project was to collect web pages that returned 'black henna' while avoiding semantic and search engine bias when possible, to organize the returns and avoid data overload, and keep up with the rapid growth and decay of websites. On December 7, 2010, a Google search of "black henna" returned the potential of 1,420,000 pages. On January 11, 2013, Google returned 2,210,000 pages for "black henna." Each page of Google returns has ten URLs listed. The top-ranked pages had the most relevant content as determined by Google algorithms and the greatest linkage in the web. The search "black henna" had the largest number of returns, with a broad range of artist and vendor sites, news sites, information sites, plus government and scholarly papers. The higher-ranked pages have the most relevant content, according to Google algorithms, and have the deepest linkage through other web sites. The lower ranked pages have less relevant content and fewer linkages through the web. In the December 7, 2010, search for "black henna," page 70 was the last one of the list, concluding with the statement "In order to show you the most relevant results, we have omitted some entries very similar to the 692 already

displayed.” To find the remaining 1,419,308 sites and review their content, subtler, more targeted searches were necessary.

Any body of data must be kept to a manageable project size. Conveniently, Google search returns have the page title and about twenty of words of text with each return, so one can quickly eliminate false returns to reduce the number of URLs in the data body. For “black henna,” false returns would be “the girl in Henna Province in China wore black shoes,” any woman in Finland named “Henna” with some combination of the word “black,” or the concert tour schedule of a rock music group called “Black Henna.” I also passed over returns that were relevant but outside of this project, such as “black henna dye for hair.” I found it was possible to review about fifty Google search returns per hour, saving relevant pages, copying and pasting potentially useful text for further examination and tagging, passing over irrelevant material and obvious false returns. When returns became redundant, with no new pages, I considered the search exhausted and sufficient.

Varying the Search Terms

I ran searches weekly, because I found that though the top one through five pages tended to remain constant, the returns in the deeper pages (pages ten through fifty of a search) varied week to week and month to month. I varied search terms frequently, beginning with general searches using the word pairs most frequently connected with ‘black henna.’ “Black henna” by itself is productive but has many false returns, such as the afore-mentioned black hair dye, rock band, fingernail polish color, other fashion accessories called “black henna,” and random convergences

of the separate words 'black' and 'henna'. Some of the more productive search terms, based on characterizations of 'black henna' were:

- 'Henna Stone' is solid para-phenylenediamine used to create 'black henna.'
- 'Chemical henna' refers to a mixture of PPD hair dye or non-polar solvents with henna powder to create 'black henna.'
- 'Henna allergy' returns question/answer sites where people ask why they have an uncomfortable reaction to henna, with commentary following, often revealing a location and date for 'black henna' incident and *black henna memes*.
- 'Henna itch' returns question/answer sites where people ask why they have an uncomfortable reaction to henna, with commentary following, often revealing a location and date for 'black henna' incidents and *black henna memes*.
- 'Mehndi allergy' and 'black mehndi' returned material similar to the above, with 'mehndi' being the Hindi word for Henna.

I searched word pairs by country, place and activity and common words used in cultural blogs: these narrowed searches returned fewer but more relevant results that would not have been included in the top 1,000 returns in the more general searches. The choices of these pairs were based on news reports, medical papers, and personal communications I had received indicating 'black henna' activity. I did not include the word 'black' in many of these searches, because people often reported simply 'henna' and it is possible to make the determination of 'black or 'natural' henna through context. In these searches, I hoped to find personal narratives of 'black henna' experience, to illuminate the geographic location, date, and *black henna memes*.

As an example, a Google search of “Henna Philippines” returned 1,150,000 pages on January 11, 2013, the most relevant to the search being in the top five pages. This directory returned 292 results, with the most relevant results placed at the top of the listings. One return was *Sulit.com.ph*, which had a business directory for henna artists in the Philippines. Many of the artists in this directory displayed ‘black henna’ work; others advertised face painting and other children’s party services. Several Youtube videos were returned in the search. These were created by both artists and patrons having ‘black henna’ on the beaches in the Philippines. Six blog reports returned describing ‘black henna’ allergic reactions. In these, the writers narrated their own injuries, or a parent narrated their children’s injuries.⁴⁶⁸ The individual narratives of producing and consuming ‘black henna’ were useful for determining the evolution and variants of henna memes, and the understandings of trust and the ‘dangerous other’ in the third zone of tourism.

Narrowing the search to tourist destinations in the Philippines, on January 11, 2013, a search for “Puerto Galera henna” returned a site stating, “You cannot claim that you have been to Puerto Galera if you have not gotten a Henna Tattoo.”⁴⁶⁹ A Google image search of ‘Puerto Galera henna’ returned forty images of identifiably black henna and ten images of identifiably natural henna on people, all of whom appeared to be on vacation.

After broad searches for “black henna” in a country, I narrowed the search field by requesting specific resorts and beaches identified in the initial returns. The more specific searches were often more productive because the number of returns for a whole country contain a great deal of ‘noise’ or irrelevant returns. From these returns, I could collect dates and locations to map the epidemiology of ‘black henna’ in third spaces of tourism, and the development of the discourses of ‘black henna.’ I proceeded methodically through tourist destinations:

- “Henna Bali,” and “Bali Tattoo” returned ‘black henna’ vendors, hotels where people can get ‘black henna tattoos in Bali, as well question/answer tourism sites where people asked where in Bali they can purchase a ‘black henna’ tattoo. The discussion scripts included posts for people’s reasons for preferring ‘black henna,’ or, if they had an uncomfortable reaction to a ‘black henna’ tattoo, a description of the event. The commentary often revealed locations and dates for black henna incident as well as *black henna memes* from both consumer and provider perspectives.
- “Henna Egypt,” with variants of Morocco, Kenya, Tunisia, Zanzibar and other frequently visited African tourist countries returned hotel and vacation package promotions that included ‘black henna’ artists, photographs of ‘black henna’ tattoos. In the returns of tourist visits to these areas, people described the incident, evidencing the *black henna memes* of a tourist encounter with a cultural experience in a distant country, and, in some instances, their feelings about the injuries that followed.
- “Henna Mexico,” with variants of popular tourist destinations return in Mexico, returned cruise, hotel, and vacation package promotions that included ‘black henna’ artists, photographs of ‘black henna’ tattoos. In the returns of tourist visits to these areas, people described the incident, evidencing the *black henna memes* of tourist encounters, expectations of safety in package tours, and in some instances, their feelings about the injuries that followed.
- “Henna Florida,” with variants ‘Key West’, ‘Panama City’, and ‘Spring Break’ returned news articles on injuries, the prevalence of ‘black henna’ in seasonal shops, and vacationers’ blogs with photographs of body art, some of which included discussions of

subsequent injuries. These also return Florida Department of Environmental Health official warnings about ‘black henna.’ Key West was a location of some of the earliest use of ‘black henna’ in USA, so early returns from Key West evidenced some of the early formations of *black henna memes*.

- “Henna North Carolina,” with variants of other coastal states in the USA hosting tourist beaches returned news articles on injuries, natural henna artists objecting to the use of ‘black henna’ in seasonal shops, ‘black henna’ artists claiming the right to freedom of expression and choice through ‘black henna,’ legislation on henna in the states. The returns included vacationers’ blogs with photographs of ‘black henna’ body art, some of which included preference for ‘black henna’ and others including discussions of subsequent injuries.
- “Henna Goa,” with variants Taj Mahal, and other popular South Asian tourist destinations often return narratives of first-hand encounters with itinerant henna artists. The English-language western tourists’ narratives included orientalist *black henna memes*, and if there was an injury resulting, this was often be narrated in a discourse of vulnerability and blame.
- “Somali henna” and “Sudanese henna” have very complex returns at the time of this research, because they include narratives of preferring and defending PPD ‘black henna’ use among ethnic Somali and Sudanese henna artists, in Somalia and Sudan as well as migrant communities such as the Twin Cities, Portland, and San Diego. This area includes an increasing social and legal conflict over ‘black henna’ use in migrant communities and ethnic economic zones in the USA. There is a similar conflict with

Francophone African migrants applying 'black henna' in Montreal, though their narratives largely fall outside of this English-language project.

- "Carnival Cruise henna" returns tourist forums where people asked how much henna tattoos cost on board and when the ships dock at tourist ports. They also narrate frustration when they have allergic reactions from 'black henna,' and feel that their sense of safety on the cruise line has been betrayed.
- "Black Henna Craigslist" returned vendors selling 'black henna' products in the USA and some threaded discussions from clients. These discussions evidence the memes of desire for, warnings about, and defense of 'black henna' within the US informal economy. "Black Henna Ebay" returns similar pages of people selling 'black henna.' The 'black henna' sellers on Ebay praise and defend their products, and evidence the countries of production.
- "Black Temporary tattoo" returned galleries of temporary body art. These galleries often included the place of the gallery, date the art was created, and discussions among the artist, the clients, and people who argued against 'black henna.'
- "*Henna alaikum,*" "*henna insha'Allah*" and "*henna pbuh*" returned posts from Muslima message boards with pictures of and commentary on 'black henna.' The message boards often had scripts to automatically include the date and location of commentary.
- "Black Henna Bollywood" and "mehndi black Bollywood" also returned posts from South Asian community message boards, with pictures of and commentary on 'black

henna.’ The message boards often had scripts to automatically include the date and location of commentary.

- “Henna black indo pak” and “Henna Pakistan” returned posts from vendors selling henna and black henna. These also returned Pakistani diaspora social network message boards, with pictures of and commentary on ‘black henna.’ The message boards often had scripts to automatically include the date and location of commentary.
- “Mehndi Desi” and “Henna ABCDesi” returned South Asian social networking boards serving American Indian women, where there were often discussions of US law and henna and the problems of chemicals in henna, ‘black henna,’ and the cultural contexts of ‘black henna.’

Varying the Search Products

Varying the Google search products, such as Google Scholar, Google Groups, Google Image Search, Google Blog search, Google News Archive, and Google Web History yielded additional relevant urls that would not have reached the top of the search engines because the pages were not deeply linked in the World Wide Web. I used Google Alerts for several years to monitor henna and ‘black henna’ in the news. Google News carried black henna stories from online editions of newspapers around the world. News pages were often disabled after some months though I was able to retrieve older stories through Lexis Nexis. During this period, Bing did not seem to produce significantly different results from Google, nor did Yahoo, Ask, and AltaVista.

During the period of this research, 2009 through 2014, Google was the dominant online search engine.

Google Blog search was the most useful product for finding personal narratives with *black henna memes*. Google Scholar yielded listings of published academic and medical articles with mentions of ‘black henna;’ most of these papers are usually old enough to have been released for free access, or, if recent, have only abstracts. The academic papers not available online were accessible through Kent State University electronic library journals and interlibrary loan. The formal and informal pronouncements of these different sources often carried contrasting *black henna memes*. Google Images returned 625,000 images of black henna on December 7, 2010.

I attempted thorough cross searching to mitigate Google rankings of the most accessed pages, but several kinds of pages are missing from these searches. There may be information on ‘black henna’ in the Dark Web, deliberately private, passworded, or coded pages that are intentionally inaccessible. There may be information on black henna in obscure pages, with high privacy settings. Internet access is still unevenly distributed around the world, through infrastructure, culture, literacy, and language, so there is surely much information that I could not access. However, this work is based on the English language online memetic replication of *black henna memes*; memes that are inaccessible have little chance to replicate.

As a comparison to online resources and to recover material that had been abandoned, or occurred before there was a large consumer base of home computers, I searched Lexis/Nexis periodical news publications for mentions of henna. I also searched PubMed for medical papers on henna that influenced the discussion of henna online through people’s visits to their doctors and quotes in news articles.

Quantitative Tags: When, Where, and What, Place, Date, and Action

The time frame of this study, beginning in the 1900s, and focusing on the period following 1996, precludes the use of precisely timed and geotagged information, as used by *FloatingSheep.org* studies done using data constructed from Twitter. I created quantitative tags by hand for as many web pages as possible to construct a progressive epidemiological tree of the discussion of paraphenylenediamine black henna. I tagged the originating date of the page if it could be determined.

Forums, social media, periodical news publications, medical journal articles and blogs usually contain dates of posts and responses. These groups are particularly useful for identifying the evolution of meme organisms within network environments, making it possible to see the organisms' different attributes that are cooperating or conflicting and which contribute to the success or failure of the meme organisms to replicate in their different environments.

Some scripts noted geographic location, others implied location, in others, location was entirely absent. When I could, I tagged the location of the page based on Top Level Domains, TLDs, language or other identifiers of origin if I could make the determination with reasonable certainty. A URL ending in .uk generally indicates that the url is based in England, and .eu indicates that the page is based in the European Union, though that is not always proof of origin. A person can purchase a URL from a cheaper host with broader copyright permissions, such as .ru, whether or not they are actually in Russia. TLD is an indication but not proof of an origin. I relied more on text references to place names, contact phone number area codes or postal contact addresses when they are included in the website.

I tagged pages when I could determine black henna economic activity, such as ‘black henna’ production, ‘black henna’ product sales, or ‘black henna’ application. When I was able to find web pages with ‘black henna’ economic activity with location and date, I tagged them to construct a chart of the geographic spread *black henna memes*. In some web pages there was further information about the venue, such as mention of a shop, salon, hotel, mall kiosk, beachfront table, fair, private appointment, boardwalk, or festival booth. I used this quantitative information on black henna to construct the activity of black henna within formal and informal economies.

Tags for Blended Quantitative and Quantitative Analysis: Who and How, Culture and Place

I noted whether pages were static or interactive. Static pages present the page author’s meme organisms and broadcast them to anonymous viewers. In interactive pages, viewers post and respond, often evidencing cooperating or conflicting meme organisms; these qualitative tags led to potential for discourse analysis and viewing memetic evolution. Establishing the ethnic/religious/cultural affiliation of the author of the page or post is complex and subjective but crucial in discourse analysis and analyzing the meme organisms and network environment. After rough tagging of social self-identified groups, such as tags for “Muslima” (a female adherent of Islam), “Desi” (a person born in South Asia, often in diaspora), “ABC Desi” (American Born Confused Desi, presumed by Desi to be culturally conflicted), “US Anglo,” “Somali,” “Sudanese,” “Canadian Desi,” “Moroccan,” “UK Anglo” and more, to establish country of origin and ethnicity/religion affiliation; I tagged more subtle bridged and blended affiliations for

tracking meme organisms (cultural ideas) replicating, evolving, or failing to replicate through network environments (social groups.) Cultural organization and tagging (the identification of network environments) was the most complex and nuanced part of this project, because a person may belong to several groups at once and address more than one presumed audience in any given post and over a series of posts, and may have blended, conflicting, cooperating, and evolving meme organisms sequentially or all at once.

Authority, Authenticity, Formality, Informality, Gender and Age

I tagged the author's position within scale of authority when I could determine their physical and social place with some certainty by Top Level Domain extension, overt cultural statement, or circumstantial evidence. The estimation of 'voice' included presumed platforms of authority (such as the extension of .gov or an educational institution, news organization or law firm) or informality (such as a blog), claims of experience (such as from a professional artists' page) or newbie status (a novice on a forum), assumption of authority or authenticity based on the cultural background of speaker, and pronouncements framed in the authenticity of culture context.

I tagged the gender and age of the subject or author when they were mentioned on the page. In some instances, I was able to track how gender and age elicited differing cultural memes for henna desirability, appropriateness, vulnerability, and culpability.

Intention, Pronouncement and Audience

I tagged the purpose of a page if such could be determined. Professional artists' promotional pages, vendor pages, personal blogs, social network pages, information pages, and forums all have different purposes, which frame the motive and intended result of the page. Authors of pages or posts are influenced by the presumption of an audience and will code their pronouncements to the people to whom they believe may be addressing. In static web pages, the audience is anonymous. A vendor's page created for the purpose of selling 'black henna' often replicate *black henna meme organisms* of desire for and defense of 'black henna' to encourage people to purchase the product. Artists' pages built to promote their natural henna work often replicate *black henna warning meme organisms* to defend their own practices and engage trust from potential patrons.

Blogs, social networks, and forums contained opinions and first-person narratives that people felt an urge to share. The bloggers and group members described both positive and negative engagements with 'black henna.' I compared these pronouncements for replication, evolution, content and function of *black henna memes organisms*. In threaded discussions, the writers were often familiar with the readers, and coded their remarks based on the assumptions of shared (or contrasting) experience, cultural understanding or expertise.

Tagging Qualitative Personal Narratives of Events

Blogs, forums, and personal webpages contained personal narrations of the authors' henna or 'black henna' experience. Some of these narratives contained the geographic location and date

of the incident, and there was usually some reference to the culture affiliation, gender and age of the author. They often narrated the authors' feelings prior to and after the event, framed in meme organisms of tourism, orientalism, cultural expectations, desire to connect with other people, desire to experience a novelty, or to be rebellious. The authors narrated henna and the experience in terms of their own memplex, their comprehension of the event in their own cultural and experiential context. When there was an adverse reaction to the 'black henna' event, they expressed their feelings of vulnerability, betrayal, culpability, or self-blame. They often included a call to action based on their understanding of the event, such as 'there should be a law,' or 'people should be warned.' Many of the scripts allowed further commentary by other people reading the narrative. All of these features were rich sources of meme organisms acting and replicating within their network environments. Because the narratives had a place, time, cultural affiliation, gender and age, the *black henna meme organisms* could be tagged and potentially correlated with similarly tagged narratives in their social groups, their network environments.

I revised the tags regularly as nuances, discoveries, connections, and changes evolved during the research process. It was my experience that I rarely identified all potential tags in the first reading of a page and that regular re-readings were beneficial. I searched for geographic, chronological, gender, and culture tags. I followed Coscia's work on meme organisms to discover which *black henna meme organisms* were succeeding or failing from cooperating, evolving, or conflicting in network environments. Reviewing and revising the tags was the most time consuming and sensitive process of the research, looking for *black henna meme organisms* and their differential replications and evolutions.

Paull (2009) suggests imaging memetic evolution through a temporal meme map, and offers steps to create one:

“Steps in Creating a Meme Map

- Identify the Meme Birth Event, Meme Developmental Events, and Meme Gestational Events of interest.
- Draw a figure-8 diagram (the skeleton/framework/scaffolding).
- Place the Meme Birth Event at the choke point.
- Populate the Meme Gestational Zone and the Meme Development Zone with Meme Events.
- The Meme Map will ultimately be a function of the choice of the meme and/or the Meme Birth Event.”

Chronological sorting within network environments revealed the originating field, gestation, and evolution of meme organisms over space and time. It was often possible to identify some origins, evolutions, and variations of memes as they competed within their environments. Schifman and Thelwal⁴⁷⁰ graphically displayed similar information as branched cluster analysis charts of semantic variants. These methods can show the progression of henna memes as an epidemiological tree through social, official, and geographic groups. In this work, the evolution of meme organisms shows the boundaries and conflicts of understandings of black henna between different social groups, or network environments.

Tagging semantic phrases and following meme organisms' dispersion chronologically in formal pronouncements (news, government or medical articles) and comparing them with informal pronouncements (personal webpages, forums and blogs) show flows of meme organisms in networks, as well as cases in which replication was partial or resisted. The groupings of these tags also show the boundaries where *black henna meme organisms* replicate, where *black henna meme organisms* evolve, and where *black henna meme organisms* cooperate or conflict in network environments.

The chronological sequence of meme organism evolution showed how some memes might have been strongly broadcast from a single source, termed a meme fountain, describing the effect of meme replication through a popular, influential or widely imitated person.⁴⁷¹ A graphic visualization of the epidemiological spread of a semantic phrase being replicated from one webpage to another could take the form of a branching or starburst pattern from a central source, and boundaries beyond which there was no replication. I found boundaries forming at the perimeters of language, social class, religious, cultural prejudices, and infrastructure barriers, but the material was too large and disperse for me to construct epidemiological tree charts with any certainty.

If all web pages created were still in existence, it might be possible to construct visualizations similar to Schifman and Thelwall's meme graphs⁴⁷² and Paull's Meme Maps.⁴⁷³ It would be ideal to be able to map the origins and spread of black henna memes as they spread globally over seventeen years, but the base material is too uneven and fragmented to claim a complete and accurate event sequence. If maps and charts can be constructed with the caveat that they represent information available and do not claim to be all possible incidences, I believe there is still much to be learned from visualizing black henna meme organisms chronologically and

geographically. That which is still available should be roughly representative of the dimensions of ‘black henna’ memes online cultural and social network evolution, as an archaeological sort of correspondence.

I constructed diagrams of *henna meme organisms* and *black henna meme organisms* to illustrate how they replicated through different network environments, showing how their attributes differed as they evolved, and which attributes assisted or prevented replication. The memes evolved differently and at different rates in periodical news publications, medical papers, forums and blogs, law and policy. I compared the meme organisms in different network environments to visualize the flows and boundaries of their reproduction.

As the injuries from ‘black henna’ were reported when tourists returned to their donor countries, new evolutions of memes reproduced linked to meme organisms of parental responsibility, social duty, culpability, economic status, cultural and racial bias, as well as moral judgments. *Black henna meme organisms* evolved differently in each network environment. I compared these both by time and focus, as different perspectives on ‘black henna’ took separate though interlocking paths.

I was able to use Google trend searches⁴⁷⁴ to produce data graphics showing an annual pulse of inquiries about henna and ‘black henna,’ similar to those for beaches, and vacations. There appeared to be an annual memetic pulse or surging of the black henna meme,⁴⁷⁵ which mirrors and slightly follows the summer pulse (not the winter pulse) of vacation and beach queries.⁴⁷⁶ I adjusted the henna pulse by through “henna” + “tattoo” to filter out returns from Finnish women named Henna. The “henna” + “tattoo” query had the largest proportion of origination in the Philippines in March 2013.⁴⁷⁷ Google trend searches for the memetic pulses of “mehndi”

showed a South Asian pulse to be distinctly different from the “henna tattoo” pulse, peaking each year at the Hindu holiday Diwali.⁴⁷⁸ Similarly, the pulse of “Eids + henna” had a very different pulse from “henna tattoo,” with a coupled pulse for the Muslim holidays “Eid al-Adha” and “Eid al-Fitr.”⁴⁷⁹ Google trend searches also produce choropleth maps of the regions originating the searches and CSV files with more comprehensive detail.

Newspaper articles, blogs, forums, and medical journal articles often mentioned the age and gender of the person who has a black henna temporary tattoo. It was also usually possible to determine the gender of the henna and black henna artists. I compared these, noting the meme organisms applied to and applied by those who created henna and black henna, and the age and gender of their clients, as well as attitudes towards the differing genders of both artist and client.

By sorting online memes from English language web pages, periodical publications, and medical journals, constructing maps, diagrams of meme organisms, charts and graphs, it was possible to visualize the birth, pulse, replication, and global evolution of English language black henna memes online, which should have some resemblance to the real world evolution in time and space of English language understandings of black henna.

Through analysis of web memetics and meme organisms evolving in network environments, I was able to identify social and geographic areas populated by differently evolved *black henna meme organisms*, and to predict areas where one may expect to find epidemics of PPD sensitization and allergy to chemical hair dye. This method of approaching cultural geography through online analysis of meme organisms in network environments may be useful for tracking and predicting the spread and effects of other movements of other rapidly globalizing and evolving memes organisms.

Methodology Part 3: Definitions and Diagrams

To aid clarity in this research, I offer some definitions of terminology that are similar to, but not identical to those of other memetic theorists, such as Blackmore, Schifman, Coscia, and Paull. I have created graphic visualizations that will appear in chapters four and five to assist in understanding the complexity of henna memes as they replicate, evolve, collaborate, and compete in network environments, and co-evolve with their network environments.

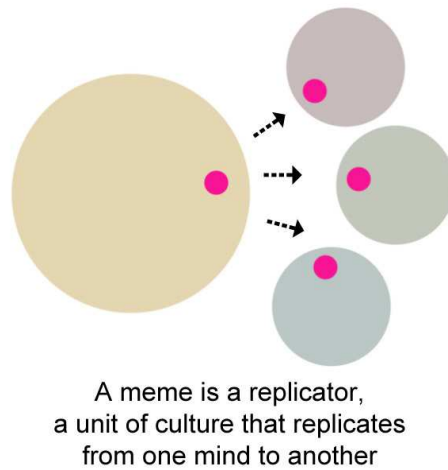


Figure 10: A meme.

A meme is a unit of culture that replicates from one mind to another. A meme may also replicate through representation of minds, such as books, photographs, and artifacts..



Figure 11: A meme may be a generalized, uncomplicated unit of culture.

In the case of henna, the meme may simply meme signify a reddish brown dye from the henna plant that stains keratin.

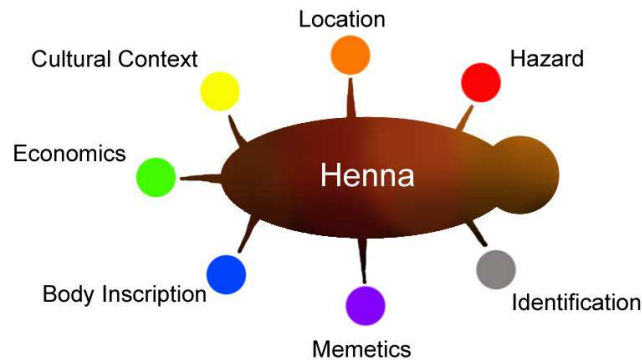


Figure 12: A meme organism is a meme with its attributes.

Meme organisms replicate more successfully than undifferentiated memes because their attributes make connections the other memes in a person's mind, the memeplex. Meme organisms with different attributes may compete or collaborate with each other.

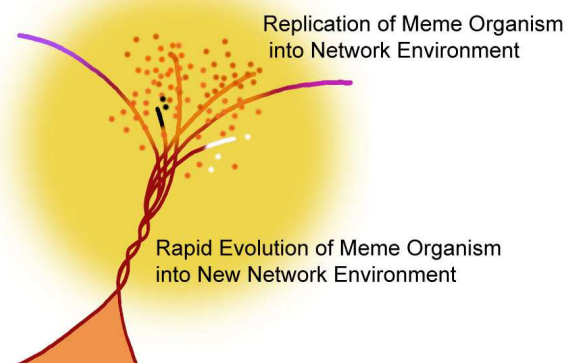


Figure 13: A meme may replicate and evolve rapidly as it enters a new mind or cultural group, a network environment.

When a meme organism replicates from one person to another, it most commonly replicates through that person's social contacts through communication. This communicative group becomes the network environment of the meme organism. As this meme organism replicates, its attributes evolve, and there is a period of rapid evolution as it adapts to the new network environment. The new network environment, in turn, co-evolves with the new meme organism, because the network environment simultaneously produces and consumes the meme organism, the unit of culture. Some attributes may be rejected, other attributes may be transformed, and others remain. The most successfully evolved meme organism proliferates to the extent of its resource base, a group of people's minds.

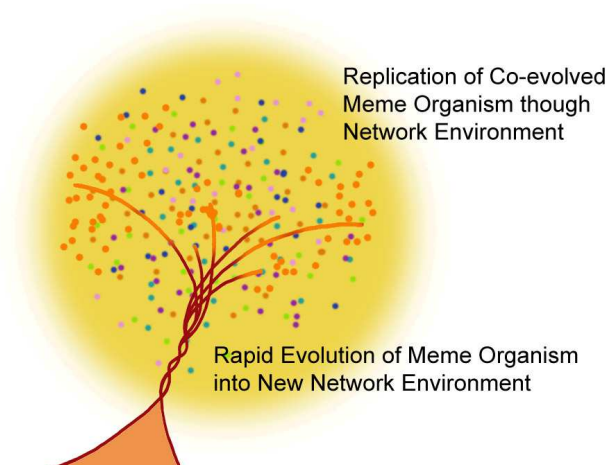
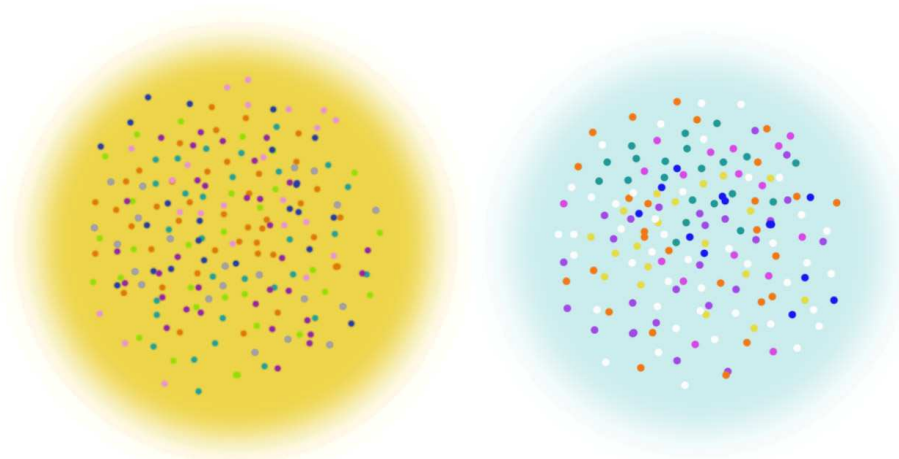


Figure 14: When the network environment, or cultural group, has co-evolved with the meme organism to the point that the entire network environment carries the same or similar version of a meme organism, that version is regarded by that cultural group as 'truthy.'

In chapter four, I will assemble memes from different network environments to examine the replication and evolution of henna meme organisms and the co-evolution of the network environment in producing differing and conflicting truths about ‘black henna.’



Memes replicate easily within socially cohesive groups to the boundary of the group.

Figure 15: Different network environments contain differently evolved meme organisms, achieved by the same process. One network environment (cultural group) may view a meme organism differentially co-evolved in another network environment’s meme as ‘False.’

CHAPTER IV: A QUALITATIVE HISTORY OF THE EPIDEMIOLOGIES OF MEME ORGANISMS

The 20th Century Understandings of Henna in English Language Publications

Henna memes replicated from their places of linear replication, person to person imitation within their indigenous cultures, into the travel sections of western newspapers and magazines, as they had in travelers' reports since the 1600's.⁴⁸⁰ In the late 1800's, henna was an occasional feature in memorabilia of exotic travel in French and English colonial states, such as are seen in postcards from North Africa.⁴⁸¹ Adventurers and professional travelers continued noting henna into the twentieth century travel sections of widely published western travelogues, magazines and newspapers. Henna was generally depicted as a curiosity, sometimes romantic, sometimes as simply odd, something that women did as a part of celebration, and a henna stain conferred a guarantee of authenticity of exotic experience.

The understanding that 'black henna' is a traditional body art may have been accidentally introduced into western publications by the black and white printing technology that preceded color-printing processes. A black and white photograph shows henna patterns on hands, but not the characteristic reddish brown color. When early 20th century geographic black and white photographs were hand-tinted, the viewer was often left with the impression that henna stains were black.

Memes as Interactive, Competing, and Evolving Replicators in Network Environments

The henna memes from colonial images and descriptions were early actors in western formal and informal written publication environments; they replicated and evolved slowly through the mid to late 20th century, then more rapidly in the environments of online communications in the last three years of the century and onwards. These memes behaved as Michele Coscia described in his analysis of Internet memes as actors within their environments.⁴⁸²

Black henna memes evolved in the Internet environment informed by English language understandings gathered from newspapers, motion pictures, travelogues, and educational programs, as well as medical journal articles. To frame the process of memetic evolution online, and to study the memes' competitions, interactions and collaborations, I first constructed a body of articles on henna and 'black henna' from the environments of news and magazine articles, and medical journal articles from the databases curated by Lexis/Nexis and PubMed. I found differing memetic evolutions within each of these environments, and interaction between these environments. Some of these environments were print-only, and some were published online only; much of news media was both physical and online, migrating from print media to online editions between 2000 and 2013. People who read the journalism and medical articles discussed them online, so memes from the news media replicated into online environments. Memes also migrated from websites and forums into journalistic and medical publications through quotes and interviews.

I also constructed groups of *black henna meme organisms* from 'black henna' online vendors. These sellers crafted merchandising meme organisms to persuade potential customers to

purchase their products. Their texts and claims replicated as meme organisms in people chose to purchase these products and were again replicated to persuade their own customers.



Figure 16: Basic diagram of *henna meme*, undifferentiated in color, and without associated concepts.

Within this framework of memes from the environments of news, medicine, and the marketplace, I compare two Internet environments from that carried ongoing discussions of English speaking people's experiences of black henna in zones of tourism, Bali Travel Forum beginning in 1997,⁴⁸³ and Trip Advisor forums from 2004,⁴⁸⁴ as well as other travel forums such as Thomas Cook Customer Community,⁴⁸⁵ and Carnival Cruise.⁴⁸⁶ Other experiences and discussion came from English speaking henna artists and enthusiasts posting on the forum at *hennapage.com* from 1997 forward. For further comparison I have added single point discussions of 'black henna' from blogs, and Facebook pages. The last framework for these experiences, constructed in response to the accumulation of *black henna meme organisms*, is the body of English language legal pronouncements on henna by various government offices.

As Coscia demonstrates in his work on Internet memetics,⁴⁸⁷ memes form clusters and replicate, evolving, and either proliferating or failing as clusters, and *henna memes* behave in exactly this way. Coscia refers to these meme clusters as meme organisms within environments, and I will borrow his term, meme organisms, to discuss the replication and evolution of *henna memes*. The

term ‘organism’ may seem to be unnecessarily anthropomorphic but it expresses effectively that these are replicators functioning as an evolving group. I will use ‘memeplex’ as the larger group of cultural understandings, the network that is the cultural environment, into which a meme organism may replicate and evolve. These meme organisms form and evolve differently in each network environment. The *black henna meme organisms* evolved distinctly different characteristics in each group and this difference led to friction between environments.

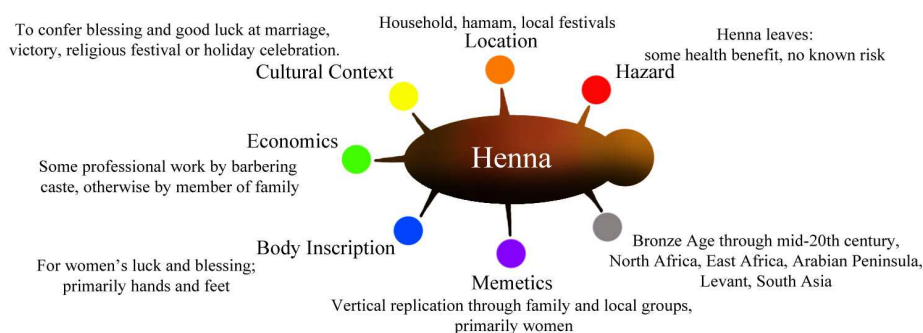


Figure 17: The *henna meme organism* replicated through local groups in this stable form for up to four thousand years.

As a diagram of a meme organism in this work, I have chosen a slightly lumpy shape for several reasons. I do not want to characterize the shape of henna as a specific cultural design as this is ephemeral and culturally contestable. A microbial shape implies that it is an autonomous replicator, like a paramecium, and the vaguely bacterial shape lends itself to growing and discarding legs where I will locate evolving text attributes. If I were constructing a discussion of the global geographic evolution of the AIDS pandemic,⁴⁸⁸ I might diagram the HIV virus, a replicator, and show its evolution over time and space. If I were constructing a paper on the

global geographic evolution of Modern Men's' Wear,⁴⁸⁹ I would use a diagram of suit, pants, and tie and show the evolution of various parts over space and time. I use the shape of a 'daub' for the henna icon in this work. The daub is generic, does not privilege any artistic or cultural style, and is graphically convenient. In early English language accounts of henna, the color range from orange to brown to nearly black was unremarkable and undifferentiated.

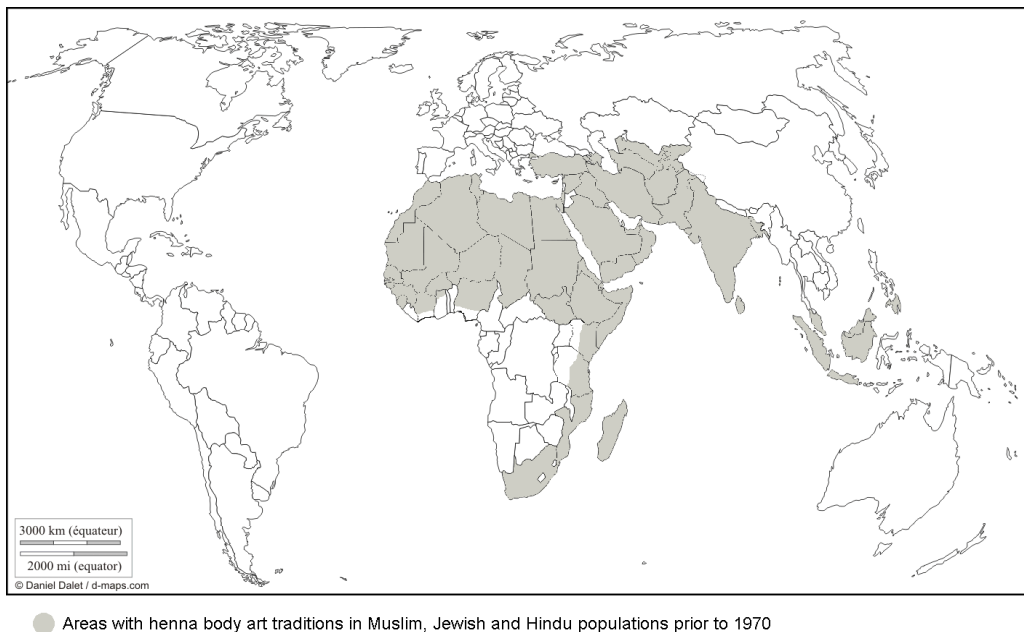


Figure 18: Areas with cultural traditions of henna body art in Muslim, Jewish, and Hindu populations prior 1970. Henna was considered lucky and was used as a body marking in weddings, and for other auspicious celebrations. Henna was primarily associated with the fertile adult woman's body. Darker henna stains were often regarded as more auspicious than lighter, orange stains.

Henna's use as hair dye and the products associated with henna hair dye contributed to the formation of the henna meme. Hair dye, marketed simply as black henna, brown henna, and red henna implied that henna came in different colors. Henna hair dyes are still marketed under these color names, though henna, itself, only has one dye molecule. The *henna hair dye meme organism* has remained stable from the late 1800s to present, and need not be repeated in this work, other than incidentally. For this work, I will use daub-shaped diagrams of henna memes for the sake of simplicity and memory, as diagrams of attributes may be easier to remember than lists.⁴⁹⁰

CHAPTER IV. PART 1. MEMES IN PERIODICAL PUBLICATIONS

The Evolution of *Black Henna Meme Organisms* in the English Language Periodical Publications Indexed by Lexis Nexis prior to the 1990s

Mememes replicate and evolve or become extinct within an environment of understandings. The online henna memes emerged the English-speaking west in the late 1990's into understandings previously framed in newspaper, magazine, television, and travelogues. People's henna memplexes were largely formed by mememes replicating through the journalistic and medical media, as few had previous personal contact with henna. People had some sense of what henna was from glimpses of it in documentaries, such as from the promotional material of "Some Women of Marrakech."⁴⁹¹

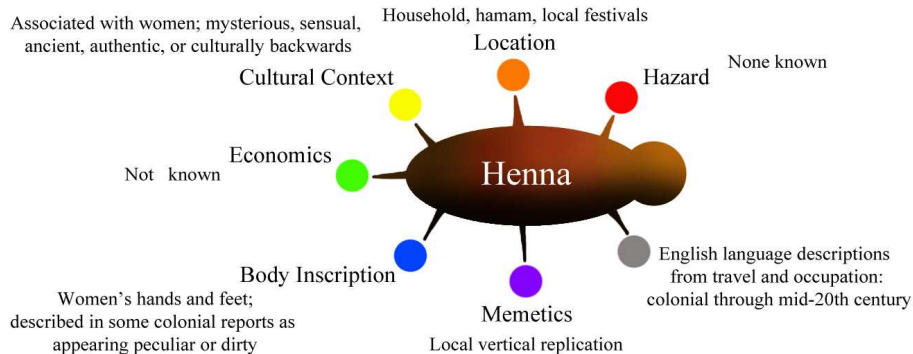


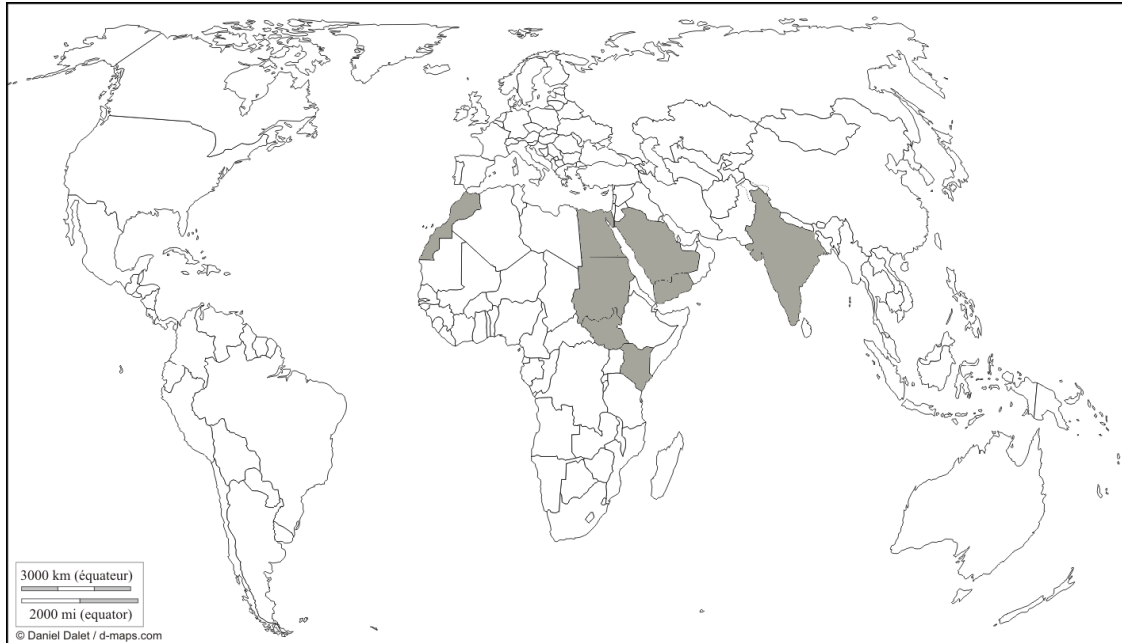
Figure 19: Diagram of the *henna meme organism* replicating in English language periodical travel-related popular print publications, from the colonial period through 1970. Henna is varyingly presumed to be black, brown or orange.

I searched the Lexus-Nexis archive of English language news stories and online news sources as a basis of comparison to the relatively individual and unedited online forum, social media, and personal website pronouncements. The record of published periodical articles also frequently precedes and reflects the web discussion of henna. News media have a research advantage over forums, websites, and blog posts in that they are edited, curated, searchable, and are a relatively intact archive. Newspaper archives are less prone to abandonment than individual websites. Their voice and purpose is relatively definable: a newspaper proposes to inform citizens in general of events of interest to their readership, and compete with other newspapers by attempting to gain more readers though content management.



- Countries with evidence of para-phenylenediamine being used to create black temporary tattoos in the 1970's, based on English language sources.

Figure 20: Countries with evidence of PPD being used to create ‘black henna’ temporary tattoos as an alternative to cultural use of henna in the 1970s, based on English language sources.



● Countries with evidence of para-phenylenediamine being used to create black temporary tattoos in the 1980's, based on English language sources.

Figure 21: Countries with evidence of PPD being used to create ‘black henna’ temporary tattoos as an alternative to cultural use of henna between 1980 and 1989, based on English language sources.

Henna memes in popular print media prior to 1970 clustered around the idea that henna made reddish-brown stains on skin, that there might also be black stains, and that both were authentic and desirable. The *henna meme organism* included the ideas that henna body art was exotic, female, located in North Africa, the Middle East, the Arabian Peninsula, and South Asia, and that to have henna on one’s body was a mark of authenticity of having been in one of those places. In English language news media henna resided in the fashion section as hair dye, in the travel section as a highly desirable and authentic souvenir, in the local section as occurred in cultural festivals, and occasionally in the lifestyle section as part of the description of a wedding. These

meme organisms replicated with attributes collected from earlier colonial and Orientalist tropes, and later through anthropological and women's studies. These also continued to replicate quietly in the background through the rising mentions of 'black henna' injuries reported to English language news periodicals.

"The Last Temptation of Christ," a movie shot in Morocco by Martin Scorsese and released to western audiences in 1988,⁴⁹² showed Barbara Hershey portraying Mary Magdalene as ornamented with black markings: Moroccan patterns on her left hand, and Sudanese patterns on her right hand and arm, and her legs. Ms. Hershey was in a number of scenes, and the patterns may have been done in para-phenylenediamine, or the makeup department was very adept at exactly repainting the patterns in black cosmetic paint or marking pen for each day's shooting. In either case, the viewers of the film were exposed to the meme that there was such a thing as black henna, and that it was traditional and desirable, associated with exotic sexuality.

Travel features with henna stories appear regularly through the present, often linked to a celebrity getting henna when traveling, describing henna more or less within its indigenous cultural context, most often with commentary such as, "The marriage was conducted with timeless religious and social rituals."⁴⁹³ In 1989, the Jerusalem Post carried an article on a modern presentation of Jewish Night of the Henna celebrations, mentioning that the henna was a paste that left an orange stain.⁴⁹⁴ A wire photo by Alan Berner in 1990 showed one of the 'timeless rituals,' Eid-ul-adha in the United Arab Emirates, in an image of a child proudly displaying the henna on her hand. The caption accompanying the wire photo mentions that the adults had black patterns for decoration. The term 'tattoos' may be misapplied, as women's tattooing is unusual in the Arabian Peninsula outside of Bedouin communities. This mention is ambiguous, but a wire photo distributed by Jody Cobb for inclusion in articles on "Saudi Arabia,

People and Social Conditions,” may not be ambiguous. Even though the photograph is black and white, it is very unusual for henna on the wrists be the same dark color as henna on the fingertips. Whether or not these news pieces depicted PPD body art, they would have replicated the *black meme organism*.

Henna Meme Organisms in Travel and Local Sections

Through the early 1990’s, the henna meme organism in the travel sections of periodicals continued to cluster and replicate as ‘exotic, mysterious Oriental women’s body art that may be an orange-brown or black color; henna is a mark of authenticity.’

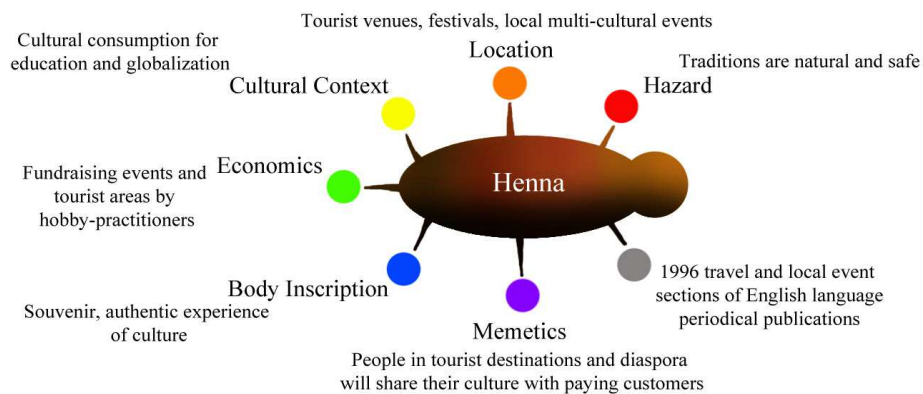


Figure 22: The *henna meme organism* in local event and travel sections of English language periodical publications in the early 1990’s has remained very stable in the print environment through the present writing (2014) though ‘black henna’ warnings were increasingly added after 2000. There is often an implication that ‘exotic people’s understandings of henna’ are more authentic than western understandings, and should be privileged.

Henna was also regularly reported in English language media as a local curiosity for consumption, featured in the local events section of the newspaper for weddings or multicultural festivals: in 1991 at the Toronto International Caravan, “Satya Ramrakha applied henna paste to people’s hands for \$1.50 to \$3, next to a table of tandoori and samosas.”⁴⁹⁵ The news item of a person reproducing their henna culture as an object of curiosity for a small fee at a local festival is a regular feature in western news media, as it reliably presents the opportunity to photograph a picturesque person in stereotypically ethnic dress applying henna to an inquisitive local child. There was also vertical transmission of henna memes in Diasporas, and those techniques and materials largely remained within their communities.⁴⁹⁶

Changes in Traditional ‘Black Henna’ Art Techniques with the Availability of PPD

In 1994, “Women of Yemen and their Seductive Art: Painted Bodies,” appeared on the Reuters wire, and was picked up by the Philadelphia Inquirer. It referred to a black body art, “Naqsh-abstract paintings of flowers or plants on women's bodies – (which) can be "sexually seductive.”⁴⁹⁷ There is an indigenous black women’s body art in Yemen, created with traditional ink made of oak gall and cupric oxide, khidab. Khidab is painted onto, wrapped, and sweated into the skin for several hours. The cupric oxide in the khidab ink can cause painful contact dermatitis in people sensitive to copper, but the reactions are different from those caused by para-phenylenediamine. Whether this article refers to khidab or PPD being painted on women is unknown; both would have been available in Yemen at the time.

An article in the February 20, 1996, Vancouver Sun, “Wedded to Tradition,”⁴⁹⁸ mentioned a Sudanese tradition of adorning a bride with black body markings for her wedding. The article

explained that traditional process took five days. Other anthropological studies of Sudanese traditional customs confirm that reapplication of henna and heat was used to create an extremely dark henna stain.⁴⁹⁹

The descriptions of black body art being a women’s tradition in Yemen and Sudan and the prolonged process required may be considered in comparison to a medical report from December 1993, of a woman in Saudi Arabia collapsed after being painted with a mixture of henna and para-phenylenediamine hair dye.⁵⁰⁰ The article confirms that PPD was easily available in the region as powder or in chunks, termed ‘henna stone,’ and that all the woman’s symptoms were consistent with a near-fatal exposure to para-phenylenediamine through skin painting.

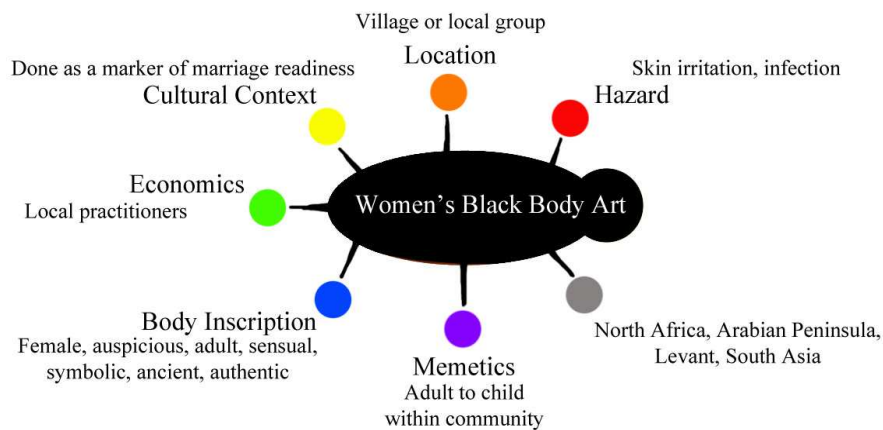


Figure 23: The early *black body art meme organism* would have included oxidized henna, khidab, harquus, and indigenous women’s tattooing was conflated with henna as ‘black henna.’ Western visitors usually did not know what materials and techniques were being used. Artists were usually secretive about their methods.

If women had an understanding that black temporary body art was traditional and beautiful, and that the earlier slow methods that required hours or days could be replaced by a paint that would stain the skin black in a few minutes, and there was no understanding of exactly what was being applied to their skin, 'black henna' could have quickly gained acceptability and clientele. The dangerousness could have remained largely invisible as women kept their mixtures secret (as did the woman in Saudi Arabia.) A second article in the *Annals of Tropical Pediatrics* in 1992 mentioned thirty-one children admitted to the hospital between 1984 and 1989 from exposure to para-phenylenediamine, with thirteen fatalities; six admissions were from cutaneous exposure to para-phenylenediamine, probably from skin painting.⁵⁰¹

There is no particular reason to assume there was a sole origin incident of discovery that para-phenylenediamine could stain skin black. PPD is plentiful; people are innovative and curious. Any person, given access to PPD will soon discover that it stains everything it touches black. At some point by the 1970s, henna artists in Sudan began to add PPD to their henna pastes for fast, black results, replacing slower traditional techniques. Women traveling, working, or marrying across national borders may have carried the technique from one area to another, or there may have been multiple individual discoveries. This innovation replaced older, slower, more expensive forms of black body art became tradition. Presently at ENT Hospital, Khartoum, Sudan, alone more than 300 cases are reported every day, with 10% fatalities from high systemic exposure to pure PPD,⁵⁰² and countries on the east coast of the Arabian Peninsula have endeavored to outlaw and confiscate PPD body paints, but with limited success.

1996: The Rapid Evolution of *Henna Meme Organisms* Cooperate with Celebrity and Modern Primitive Culture Meme Organisms in the West

In the second half of 1996, the *henna meme* in western periodicals began rapid evolution with rapid dispersion in the West, replicating in the network environments of the “Lifestyle” sections of news media through pop musician and performer use of henna. Henna was useful for performers, as it emulated a tattoo, according the performer the rebelliousness of having a real tattoo, while being able to shed markings for another style later. The *henna meme organism* attached celebrity, globalized consumption of culture, rebellious, defiant, and urban primitive memes organisms.

August 2, 1996, in the East Village of New York City, Loretta Roome caught the attention of The New York Times.⁵⁰³ Her henna work at the Bridges & Bodell Gallery⁵⁰⁴ drew in the people keen to consume globalized culture, to purchase an exotic experience and share the experience of tribal culture with vodka punch on a hot Manhattan night. By September, “The London Independent” noticed and reported the next month that mehdi (sic) had become the hottest trend in New York among the chic and hoping-to-be-chic.⁵⁰⁵ The articles both mentioned that the markings were orange, so they were henna, but the patterns had moved from traditional to western motifs, and from traditional events of family celebration to western novelty, “... mehdi also draws in the yuppies, sissies and hippies who wanted a painted-on anklet of twiny, William Morris-y leaves, or an upper-arm cuff of runic figures, but didn't want to bleed for it ...” at a price of “\$5 for a small hand design up to \$250 for an entire back.” The popularity of henna fit comfortably into the modern primitive aesthetic. The article mentions that Indian grocers in the area moved Mumtaz henna into conspicuous places by the checkout stand, eager for increased

sales to the trend conscious. Loretta Roome’s work at the gallery in August 1996 was in preparation for her book *Mehndi: The Timeless Art of Henna Painting*, released June 15 of 1998.

In March 1997, henna was featured at a pediatric AIDS benefit in Los Angeles hosted by Bloomingdales attended by the lustrous and wealthy, recorded in the social section of the Los Angeles Times.⁵⁰⁶ Henna body art was part of the entertainment, coed over by the glamorous and by those who hoped to be glamorous. At this event henna took another step into globalized culture, landing at the very top end of media, political, and wealth spectrum of society Los Angeles society. By August of 1997, one year after Loretta Roome had her gallery show in the East Village; henna was on its way to mainstreaming into US culture, and with bemused reactions from some people who grew up with henna in their own cultures.⁵⁰⁷

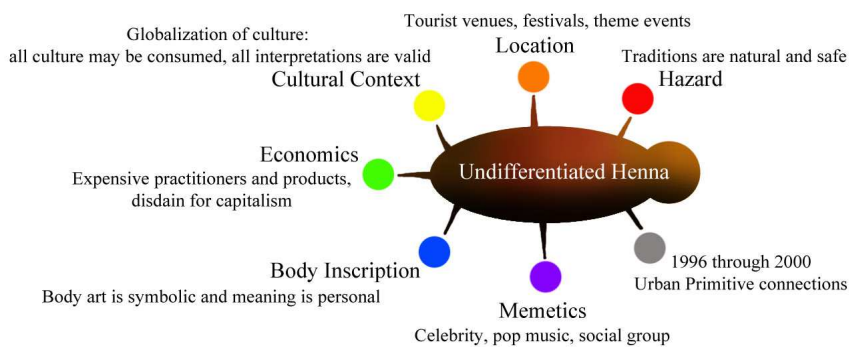
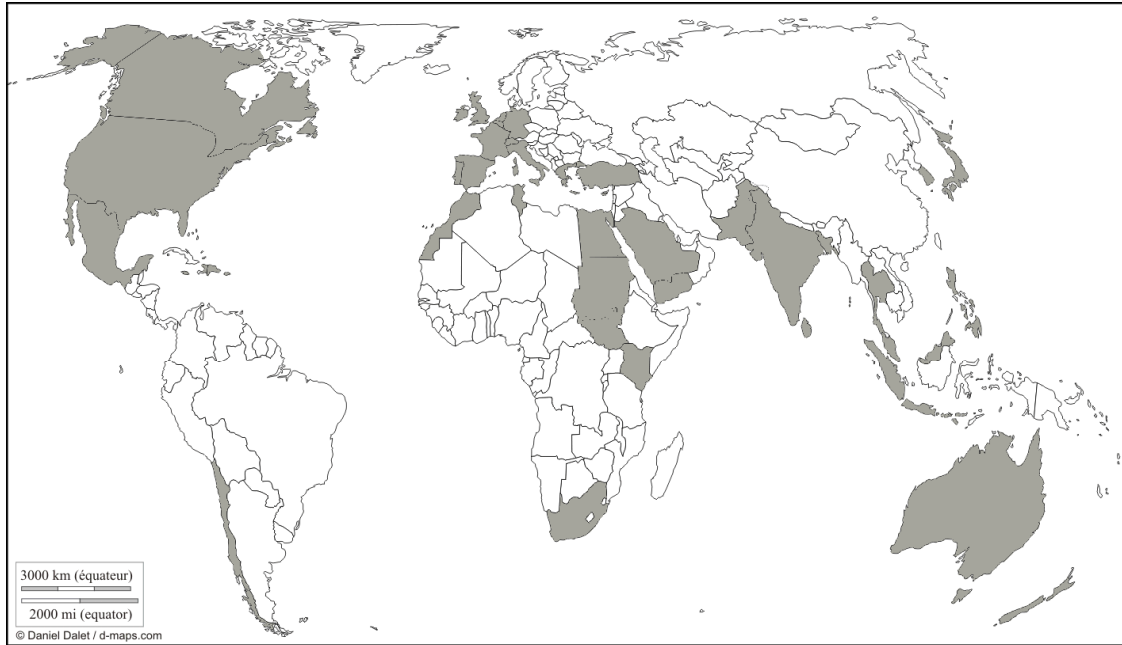


Figure 24: Modern primitive understandings of cultural consumption and celebrity attached to the *henna meme organism* in 1996 and replicated through 2000 before diminishing in vigor. The *henna meme organism* replicated rapidly through the network environments of celebrities and celebrity watchers though fashion mavens frequently pronounced it passé.



● Countries with evidence of para-phenylenediamine being used to create black temporary tattoos between 1996 and 1999, based on English language sources.

Figure 25: Countries with evidence of para-phenylenediamine being used to create black temporary tattoos between 1996 and 1999, based on English language sources, most frequently in areas of tourism.

In May 1997, in Toronto, an article in *The Sunday Times* repeated the major news memes about henna: that it celebrities used it and that ordinary people wanted to imitate them, that it was an ancient art from India and Morocco but that nobody was very upset about the globalizing cultural consumption of henna, that was is risk-free and temporary substitute for a tattoo, that it was daring, and that non-traditional patterns and placements are desirable. The article also mentioned that in ‘black henna’ was available.⁵⁰⁸ Subsequent newspaper articles through 1997 reiterated the memes, ‘movie stars wear henna,’ ‘henna is a tattoo your mother will approve of,’ ‘you can do any pattern any place you like,’ ‘you may consume authentic culture with henna and not feel

guilty about it.’ These memes appear to have collaborated and benefited the replication of the henna meme organism, as Coscia demonstrated in his study of Quickmeme.com.⁵⁰⁹

As the *henna meme organism* replicated, it generated commercial opportunity; some artists regretted not jumping on the trend quickly enough, “‘Cause we missed the boat (this season) . . . People have been calling us all summer asking for it.”⁵¹⁰ The same article mentioned, “The colors usually range from black to brownish-black to red to light orange - depending on your skin type or preference. But in tattoo salons, they experiment using tattoo inks to create more colors.” As henna spread through the US, artists not only used western patterns, they attempted to find colors more suited to western taste, to more closely emulate tattoos, and to provide tattoos without commitment or social stigma. “Finally, body decoration for wimps. The latest fad in self-beautification is 'mehndi,' the art of body painting with henna. It's subtle, it's temporary, it's ethnic. It's the kind of now, kind of wow way to look hip without total commitment.”⁵¹¹

In New York, one year after Loretta Roome’s gallery show where the trendy and elite came to get henna on their hands, Canada’s *Globe and Mail* declared that henna would soon be passé and that end would be richly deserved.⁵¹² “... it may be it's that tattoos have become just a tad mainstream. Whatever the reason, the hippest accessory of the summer is mehndi, a form of body art in which intricate patterns are drawn on the skin with henna paste.” The *Globe and Mail* continued, “... mehndi is proving to be an ideal fad: It's exotic, it's instantly noticeable and it fades anywhere from a week to a month after the henna is applied -- just in time to move on to the next Really Cool Thing.”

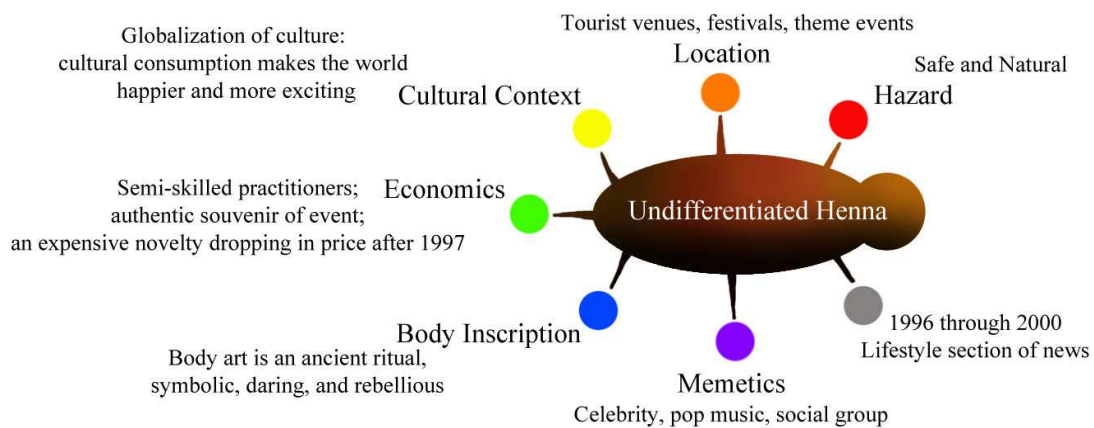


Figure 26: The *henna meme organism* evolved in lifestyle and fashion sections of English language news media from late 1996 through early 1999, particularly in Los Angeles and New York City. Though earlier travel and local event *henna meme organisms* did not cease to reproduce, this newly evolved *henna meme organism* replicated very quickly.

***Henna Meme Organisms* Evolve in Mainstream Western Popular Culture and Collaborate with Tattoo Meme Organisms.**

Through mid-1997, the henna meme organisms in the western periodical media continued to evolve rapidly as they entered mainstream popular culture. A black henna meme organism evolved as a cluster that ‘black henna’ was more desirable, particularly for darker skin, that ‘black henna’ was rare and costly, that ‘black henna’ more closely emulated a permanent tattoo, and though there was some mention that it might irritate skin, the discomfort was characterized as a minor problem if mentioned at all. The urge to harmlessly emulate permanent tattoos facilitated the invention of pastes with more colors and was linked with celebrity, global cultural consumption, and pop music. The natural color of henna, orange-brown, was considered

unattractive, and the traditional application methods were unacceptably inconvenient for western consumers.

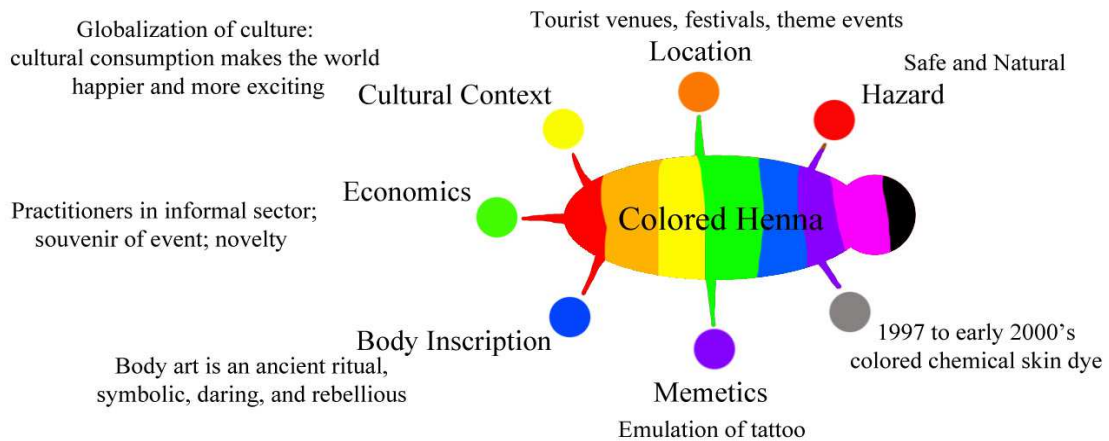


Figure 27: The *colored henna meme organism*, advertised as a ‘tattoo alternative.’ Colored henna was gel paste saturated with dye, meant to stain the skin for a few days, developed in 1997 and sales continued for several years.⁵¹³ The product did not achieve wide popularity.

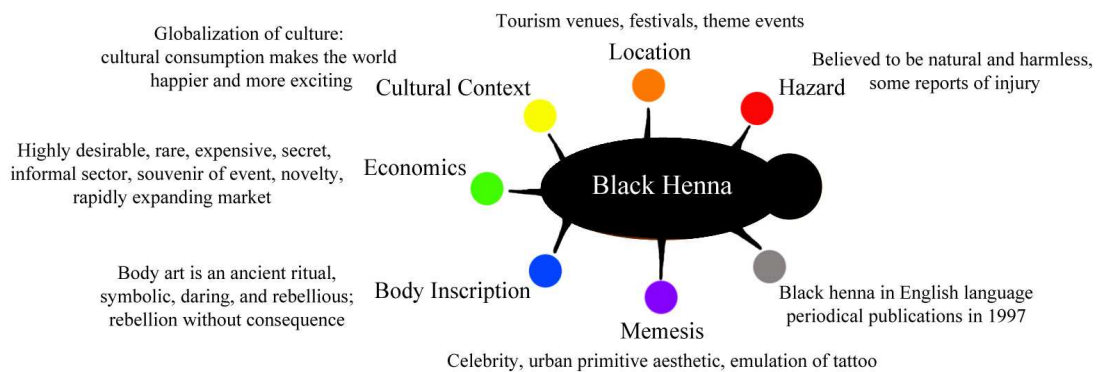


Figure 28: The *black henna meme organism* in 1997 marketed as highly desirable, rare, and expensive. The ingredients of ‘black henna’ were usually secret but assumed to be safe and

natural. The tattoo-like appearance allowed consumers to be rebellious and defiant without consequences.

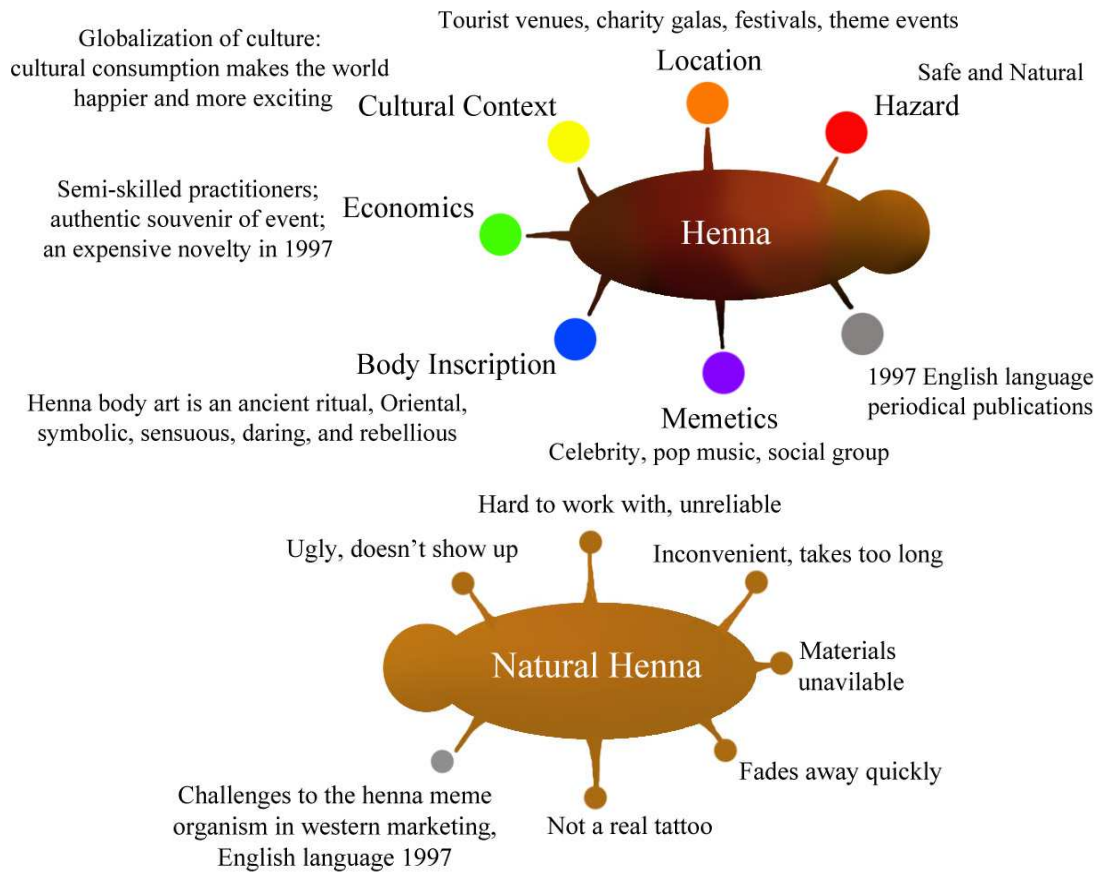


Figure 29: Competing henna meme organisms in 1997. Henna often did not suit the demands of the western marketplace. The conflation of henna and tattooing memes, and limited information about henna materials technique frustrated artists and consumers, who wanted henna to be more like a tattoo.

By August 1997, more newspaper articles mentioned the linkage to tattoos, and to colors of henna other than orange and brown, with a preference for ‘black henna.’⁵¹⁴ In Minnesota, henna

artists Linda Kurian and Shawn Streepy said to the Star Tribune, “(we are) both ordering new colors - including turquoise, red, black and fuchsia. "Black henna shows up on black skin better than the original henna," Kurian said. "(The new colors will) be so safe, you'll be able to eat it or dip a baby in it," Streepy said. "Right now with the black henna, you still have to do a patch test" to make sure your skin will not have an allergic reaction.” Kurian’s charges were, “Mehndi is \$75 an hour for brown and \$100 an hour for black.” Three of the six sources listed supplied ‘black henna’ as well as brown.

In September, 1997, the UC Wire ran a story on the trend of henna body art in the San Francisco area.⁵¹⁵ The desire for a color other than natural henna was evident: the meme organisms for ‘henna orange does not look good on dark skin,’ a common meme in Africa, collaborated with the *black henna meme organism* and competed with *the natural henna meme organism*. In Florida in September of 1997, the *Palm Beach Post* also conflated tattoos with henna; a tattoo artist planned to import ‘black henna’ to expand market to people under the legal age for tattoos, and to allow people to ‘test’ tattoos.⁵¹⁶

The Black Henna Meme Organism Proliferates and Globalizes in Cooperation with World Beat Pop Music Meme Organisms

In late October of 1997, “Egypt Today” ran a story on Setona Adam, a woman who had moved from Sudan to Egypt hoping to become a pop singer.⁵¹⁷ Setona initially found success ornamenting women with Sudanese style black henna.⁵¹⁸

Though Setona eventually developed a pop music career in Egypt, she became more famous as a henna artist, popularizing ‘black henna’ in Egypt, and on the world music scene, through the interest in globalization of local pop music as a facet of Urban Primitive culture. Her music and her Sudanese ‘black henna’ became the ‘must have henna’ for Egyptian brides, and for ‘The Artist Formerly Known as Prince’ and his wife, Mayte. When ‘The ... Prince’ and his wife appeared in the media with Setona’s ‘black henna’ on their hands, the *black henna meme organism* had an opportunity to replicate into the west, as had the ‘black henna’ in *The Last Temptation of Christ*.

Traditional henna in Egypt had become ‘quaint’ and outdated in Egypt during modernization though political and cultural alliance with the UK and the west. Brides had eschewed their grandmother’s rough orange henna stains. The traditional process required the bride to be immobilized for hours as the henna left its stain, and stylish results were rare. The black PPD markings were fast, fashionable, and modern. PPD could be shaped into intricate designs more easily than roughly milled henna available in village markets. This article places the use of ‘black henna’ in Egypt among fashionable brides at 1989 around the time of the filming of *The Last Temptation of Christ* in Morocco. Preceding the articles mentioning the black henna hospitalization in Saudi Arabia, and black body art in Yemen. Setona’s *black henna meme organisms* later reproduced through advertisements with photographs of her ‘black henna’ for performances and weddings on *Facebook.com* and other globalizing media.⁵¹⁹ Setona happened into an excellent position to become a ‘meme fountain’ for ‘black henna’ to the rich, famous, and global.⁵²⁰

Reactions to ‘Black Henna’ and the Meme Organism of “You Have to be willing to Suffer for Beauty”

Setona was not unaware that there were women who had skin reactions to the fast, black mixture she was using, but black was popular. She mentions the skin irritation of depilatories and it is possible that women’s acceptance of cosmetics and styles that may be uncomfortable. The meme organism, “you have to be willing to suffer for beauty,” cooperated with the *black henna meme organism*. Her narrative in the article does not show that she had any clear understanding that the allergenicity of PPD as the cause of the problem, or that the problem might not be trivial.⁵²¹

At the same time, the Herald Journal in Spartanburg, South Carolina,⁵²² ran an article titled, “Body art of ancient cultures enjoying a trendy rebirth in the U.S.” in the Life section, accompanied by a photograph of entertainment promoter John Walter of Miami showing off his black henna arm designs by Melody Weir, with a heavy application from knuckles to elbows on both arms.

The article also replicated the usual list of celebrities who had appeared with conspicuous henna and black henna, including Setona’s client, “The Artist Formerly Known as Prince” and his wife. By late 1997, ‘black henna’ was being presented as a natural variant of henna, though more rare and expensive, as well as more masculine, more desirable and more congruent than traditional henna. The break with traditional henna work was well established; the merge with urban primitive global consumption of culture was clear and unapologetic. Continuing her international world beat music and black henna career in 2001, Setona performed and demonstrated black henna at the Rainforest Music Festival in Sarawak.⁵²³ There was very little mention of injury accompanying black henna. The media was willing to promote global cultural consumption, but

committed fewer column inches to discussing problems or concerns associated with that consumption.

Two weeks later, November 18, 1997, in Australia, the Illawara Mercury continued the theme of ‘mehndi is trendy’ but quoted a henna artist saying that some henna mixes could be dangerous.⁵²⁴ She did not say what might be the problem; she only said that some henna had “dangerous ingredients such as quick lime and mustard oil.” She claimed that her mixture was “an ancient recipe with leaves imported from India: ... organic, cruelty-free and edible.”

Rapid Replication of the *Black Henna Meme Organism* Cooperating with Celebrity and MTV in 1998

People, Vanity Fair and Los Angeles magazines featured photographs of celebrities wearing henna; every newspaper article on henna body art began by reciting the growing list of celebrities who had displayed henna, signifying their visible consumption of the exotic. Henna was in demand, in no small part driven by celebrity mimesis. Madonna ornamented her hands with henna for the January 7–10, 1998 video shoot of her single, “Frozen,” and chose ‘black henna.’ The choice may have been pragmatic as much as aesthetic. Natural henna stains change over several days, and if Madonna had used natural henna, close-up shots or retakes during those days of work would have had inconsistent color. PPD markings on skin would remain consistently black, facilitating continuity for the video process and editing.

The “Frozen” music video, conspicuously showing black henna on Madonna’s hands premiered in Europe on February 12, 1998, and in the USA four days later. This ‘black henna’ was viewed

by millions of people, and the meme 'black henna' immediately proliferated globally whereas it had replicated more gradually before. A few days following the release of the video, Megan Ward, of the UCLA Daily Bruin wrote of people's impatience with traditional henna and their preference for 'black henna.'⁵²⁵

By spring of 1998, every news article on henna included a recitation of celebrities who had been photographed wearing henna. Most newspaper articles replicated the meme that 'black henna' and red henna were simply variants of the same harmless temporary tattoo.⁵²⁶ The popularity of henna rose among those who wished to imitate the celebrities with henna, or to join in the second tier of memetic replication following Madonna's music video, "Frozen;" that is to say, everyone else who wanted a visible display of their participation in the urban primitive body adornment and global cultural consumption memeplex. The replication of the henna meme was prolific enough that many newspaper articles in 1998 interviewed people who had quit previous jobs to work full time as henna artists. The images of Madonna with 'black henna,' and the recollection of Prince's 'black henna' by Setouna, and Mary Magdalene's 'black henna' in *The Last Temptation of Christ*⁵²⁷ pushed the price and popularity of 'black henna' upwards. A few people, mostly henna artists, were aware that there was a problem with 'black henna,' even though they weren't certain what might be causing the injuries. The injured clients occasionally returned to the artists, but the demand for 'black henna' was strong enough that the problems were trivialized. The ignorance about PPD being mixed into pastes and powders and secrecy about these mixtures compounded the problem.⁵²⁸

By the early summer of 1998, the *henna meme* still fed on the cooperation with celebrity memes, but began to shift from purchasing an expensive henna tattoo to buying a book of 'how to,' or a

kit. Henna began to disperse from exotic novelty into the economic mainstream of the west; mall stores featured henna artists charging a dollar a minute, and business was brisk.⁵²⁹

The Meme Organism of Cultural Consumption Competes with the Meme Organisms of Cultural Ownership and Authenticity

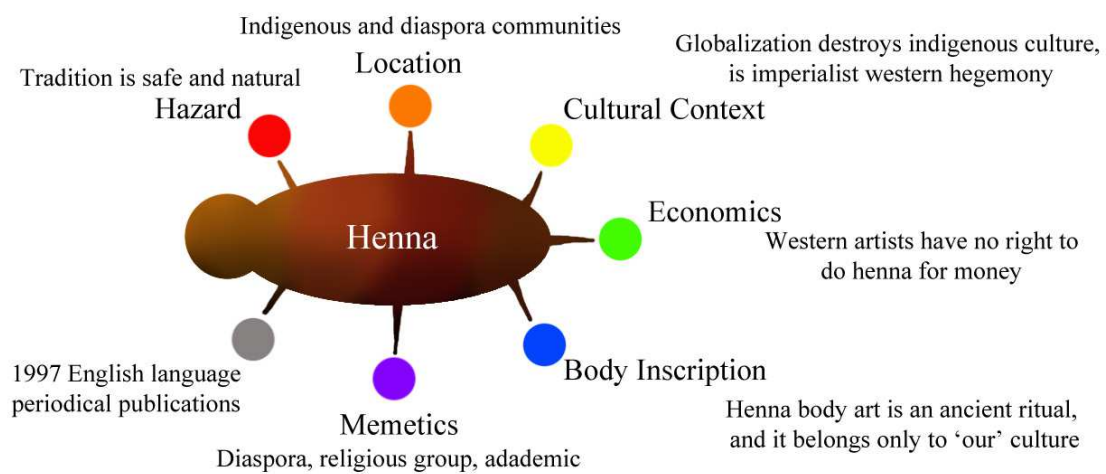


Figure 30: The competing henna meme organism of “The West is stealing our culture, and cultural consumption is offensive” replicates well in many groups, religious, social, and academic, and is often applied to henna.⁵³⁰

Though the summer of 1998, most newspapers inserted one or two paragraphs mentioning Indian and Muslim traditions of henna into every ‘mehndi is trendy’ story, quoting one person who frowned slightly about western cultural consumption and another who excused it. The World Vaishnava Foundation was more vocal, accusing Madonna of blasphemy in September for wearing henna on MTV and demanding an apology.⁵³¹ Neither the western news media nor

western henna clientele took the accusation very seriously. "Henna is for young frisky people, the young and the fun," said Judy Robinson, local Henna tattoo artist ... Gwen Stefani and Madonna were the big mediators for bringing this out in a sacred way." There is evidence that meme organisms of cultural ownership replicated through ethnic communities, but did not proliferate well into the areas of white western women. White western English-speaking henna artists were quoted in news media as negotiating cultural consumption and authenticity in creative ways; they kept on working and kept their prices high through the season.⁵³²

**The *Henna Meme Organism* Becomes a Signifier in Cooperation with the Trendsetter
Meme Organism.**

The *henna meme organism* was such a successful replicator when cooperating with Madonna's 'Frozen' that MTV used it as a signifier when creating the department of Youth Intelligence to search the streets for 'trendsetters' to collect information to advise on network programming. The 'Youth Intelligence' department sought youth with henna, dreadlocks and piercings.⁵³³ MTV believed to be trendsetters could be recognized because they were carriers of *henna meme organisms*. The *henna meme organisms*, in turn, gained vigor by cooperating with the trendsetter signifier. The declaration that the most popular and trend-setting youth wore henna produced memesis from youth who wished to be popular and trend-setting; celebrity, popularity, 'hipness' and Modern Primitive body styling briefly self-reinforced and rapid replication.

Marketing 'Black Henna' through the Summer of 1998 and Early Warning Memes

Warnings about 'black henna' in the summer of 1998 were rare and non-specific and black henna remained more popular and more expensive than natural henna.⁵³⁴ In late August, the Canadian National Exhibition in Toronto featured "Black Henna Body Art" among its pavilions.⁵³⁵ Following the hundreds of people painted with PPD in Toronto, a woman was featured in the Gloucestershire Echo as providing 'black henna' tattoos. The narrative of the artist and her clients showed their delight in the social transgression of having a temporary tattoo, and the popularity of henna at a summer music festival, "It's funny because I was at the Reading music festival recently and nearly had a henna tattoo done then but the queue was too long." The image of the henna artist and her clients was captioned,⁵³⁶ "...She uses a black henna from India which is 100 per cent pure, with no dyes or inks in it. "I get a lot of people here who like the idea of a tattoo but don't fancy a real one." Rachel Viner was delighted with her ankle bracelet design Phil Cook with the dragon tattoo on his bicep." The claim of 100% pure 'black henna' was not questioned.

In January of 1999, the Illawara Mercury carried an article on a woman applying Amunez black henna at a salon in Corrimal. Amunez formulated PPD into a smooth, paintable peel-off base in 1997 to compete in the 'black henna' market that catered to tourists in Bali.⁵³⁷ There was little attachment made to traditional henna, though the article included Amunez's fictional origin story of an ancient Egyptian high priestess commanding slaves to paint sacred patterns on her body. The patterns used in the salon were not sacred, the artist listed 'Celtic, Oriental, and Disney' as favorites. The article mentioned that Amunez temporary tattoos was distributed in more than fourteen countries and claimed to have been in high demand among music and television

celebrities. Amunez seems to have been the first company to globally market a para-phenylenediamine mixture body art to the western market, particularly to areas of tourism.

In 1999 there were artists in diaspora who were accustomed to nearly twenty years of traditional practice of mixing henna with PPD whether or not they were aware of what the chemical might be. In Rochester Minnesota, the Associated Press State and Local Wire ran an article on Fatima Sulieman, a Sudanese woman who worked locally as a henna artist for the local Muslim community, applying henna for Eids and weddings. She described henna as leaving a range of stains from orange to black, and that her 'black henna' was traditional and harmless.⁵³⁸ In India, 'black henna' rose in popularity as globalization of South Asian body art ricocheted back from the west to Mumbai with an embracing commentary by Vipul Bhagat, "India is hot property in international couture. Obviously, what's good for the rest of the world is good for us."⁵³⁹

Interviews from South Asian people in diaspora often expressed a more conflicted response to the cultural consumption⁵⁴⁰ and this conflict continued through the next decade.⁵⁴¹ The memetic coupling between western celebrity and South Asian culture made brown women less invisible, but no less misunderstood. The merchants didn't seem to mind.

After several years of the news media featuring celebrities with henna (often black), as well as ethnic, tourism, and diasporic features on henna (often black) the year 2000 brought media attention to black henna injuries and reports from physicians. The injuries had been occurring for several years, as long as twenty years in some of Africa and the Arabian Peninsula, but had not received serious attention in the English language western media. When parents of white children who received 'black henna' temporary tattoos during foreign beach vacations came home and brought the injuries to the attention of English language periodical news publications,

dramatic photographs with warnings from parents and physicians merited column inches. More foreign than domestic injuries were featured in 'black henna' injury stories. More children than adults were featured in 'black henna' injury stories, more light-skinned people than dark-skinned people were featured in 'black henna' injury stories.

**2000: The *Black Henna Meme Organisms* of Injuries and Warnings Emerge in English
Language Periodical Media and Compete with the *Black Henna Marketing Meme*
*Organisms***

In February of 2000, Dr. Bekhor was interviewed at the Melbourne Fashion, Health, and Fitness festival, answering questions about the health problems caused by piercing, tattooing, hair removal, and makeup.⁵⁴² He offered warnings on 'black henna,' "Several years ago, horror stories were emerging from tourists in Asia who had temporary black henna tattoos. Itchiness, bleeding, and severe swelling were some of the problems experienced. ... henna tattoos in Australia are safe because they don't mix hair dye, as in Asia. In Australia its true henna, whereas the hair dye used in Asia can induce a reaction."

Bekhor was correct in his report that the problem with was the addition of the same chemical as is in hair dye, PPD, but he appears to have been unaware that the problem was ongoing, existed in Australia, and existed dozens of other countries. Amunez, the company that was providing black henna with para-phenylenediamine to Bali was invented in Australia, there were dozens of artists in Australia using Amunez black henna.⁵⁴³

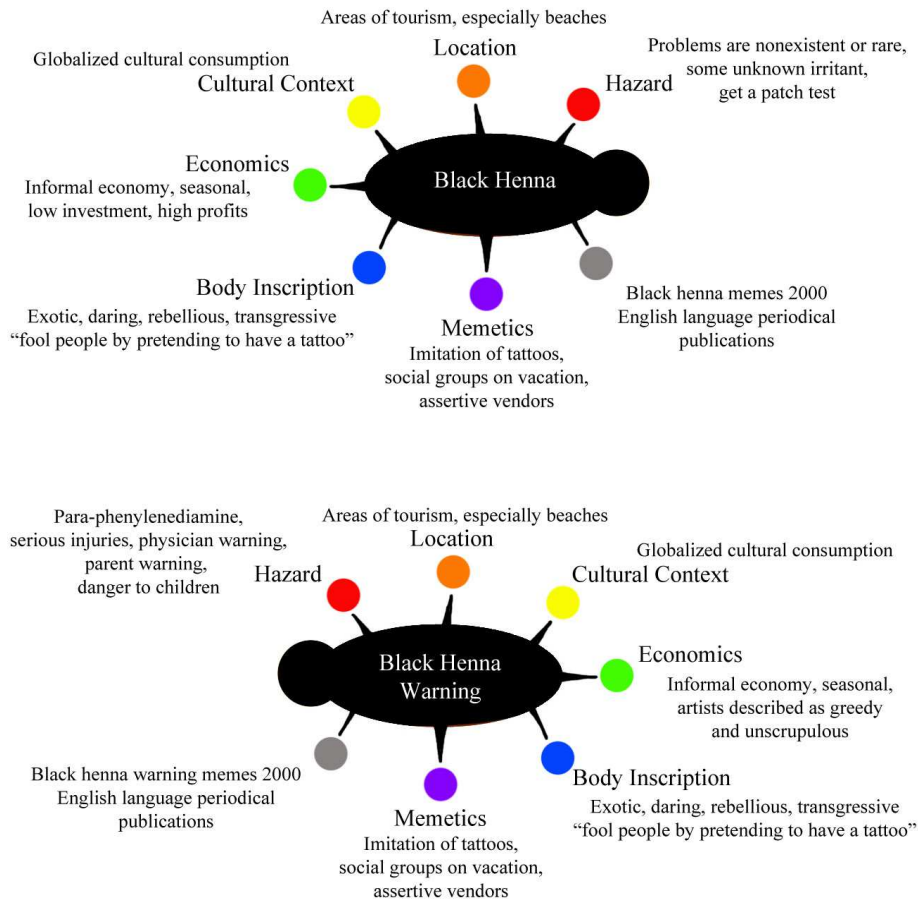


Figure 31: Diagram of competing *black henna meme organisms* in the English language media in early 2000. The colored henna meme organism disappears. The connection to celebrity diminishes. The warnings about ‘black henna’ in vacation areas gradually replicate, particularly the warnings about children’s injuries. Producers of ‘black henna’ continue to proliferate in the informal economic sector, particularly in areas of tourism. Local event sections feature artists working multi-cultural festivals who often take care to point out the difference between natural and ‘black henna.’

Later in February of 2000, the Birmingham Sunday Mercury published a warning from a Dr. Moss about two male children, eleven and fifteen years of age, admitted to the hospital with injuries from black henna applied at a Turkish market stall. She specifically identified the chemical agent causing the injuries as PPD and said that she had seen five other children with similar injuries.⁵⁴⁴ Though this article briefly associated henna to celebrity, “Madonna started the craze for mendhi,” the usual recitation of celebrities and connection with ethnic culture was absent from this piece, as it was from Dr. Bekhor’s pronouncement.

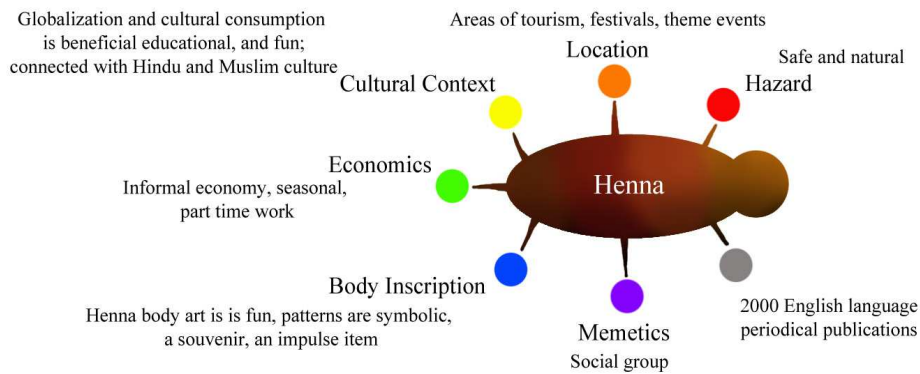


Figure 32: The *henna meme organism* stabilized in English language periodical publications in the early 2000s as having a connection to Hindu and Muslim culture. Henna was practiced in the informal economy by either western or diasporic artists, and was regarded as fun and harmless. Henna and ‘black henna’ were frequently conflated.

One month later, Reuters Health Line released an article quoting that “Henna “tattoos” may cause allergic reaction” in a letter published in the January 2000 edition of the Archives of Dermatology.⁵⁴⁵ Drs. Lyon, Shaw, and Linder reported a case of a woman who had a blistering reaction to a temporary tattoo from a beach vendor in California. The physicians did not seem to

be familiar with henna, nor did they recognize characteristics of a PPD reaction. This Reuters article repeated this as a warning about henna, not distinguishing between natural henna and 'black henna,' nor indicating that the problem might be something other than henna.⁵⁴⁶ In August, the Archive posted a response from Drs. Tosti, Pazzaglia, and Bertazzoni who wrote that they had seen six similar cases of reactions to streetside temporary tattoos, and that PPD had caused the injuries.⁵⁴⁷ In June, Dr. Danielle Marcous identified the chemical as PPD at the injurious additive in black henna at the Canadian Dermatology Association's annual meeting.⁵⁴⁸ Her mention of 'black henna' injuries was part of a talk on the range of injuries caused by Modern Primitive style body art activities that physicians might encounter: hepatitis B and C from tattooing, infections and keloid growth blossoming from tongue and eyebrow piercings. The incoming president of the association urged dermatologists to familiarize themselves with injuries associated with the fashion for globalized cultural consumption of body art.

Henna Meme Organisms Stabilize in Travel, Lifestyle, and Local Sections of English Language Periodical News Publications

The travel sections of English language periodical media of 2000 continued to rhapsodize over cultural consumption, particularly of an authentic henna experience when on holiday in Tunisia⁵⁴⁹ or Yemen.⁵⁵⁰

The local sections of newspapers reported henna presentations at schools, educational and charitable events, events, street festivals, and in do-it-yourself books. As celebrities abandoned henna for new trends, these local contexts were increasingly the network environment for *henna meme organism* replication in periodical journalism publications. By the summer of 2000,

memetic reproduction of desire for henna in the west situated locally and personally within schools, local events, and self-help books. The *henna meme organism* replicated into schools' diversity programming as teachable unit of exotic culture, a classroom hour promising to give the dominant culture an understanding of South Asian culture, race, and religion.⁵⁵¹

The *henna meme organism* served charitable events by providing an inexpensive merchandise item which signified cultural diversity combined with 'we are simultaneously different yet one' themes, hinting at globalized trade in flesh as well as cultural consumption in the name of altruism. Henna artists were generally eager to be hired for these events, occasionally working for free, or at discounted rate for causes that were dear to them.⁵⁵² Whether for charity, education, or ready cash on a summer weekend in the informal economy, anyone who could manipulate henna was attractive to the reporters and photographers who were sent out to cover the local scene.⁵⁵³

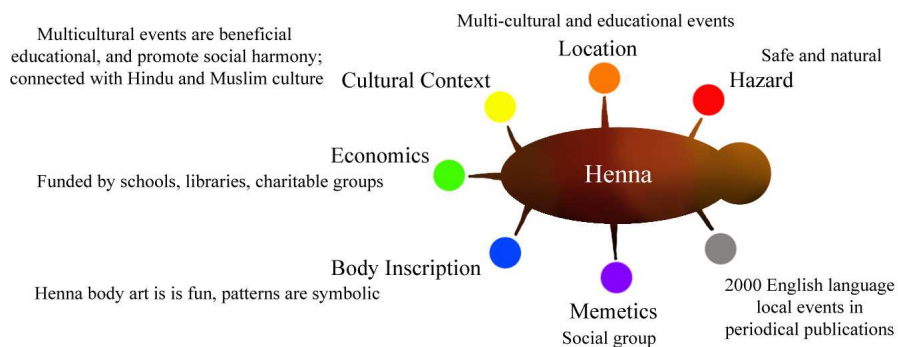


Figure 33: The *henna meme organism* has been an adaptable replicator through multi-cultural events, and has remained relatively stable since its evolution in the late 1990s. It replicates into school curricula as easily as charitable and community events. The fact that the *henna meme organism* may reinforce racial stereotyping while being presented as embracing diversity may be one of the attributes that allow it to replicate easily.

If a *henna meme organism* had not replicated into a potential henna artist as part of a linear experience through family, the information was available through horizontal memetic dispersion through books and websites. There was abundant demand for henna, and practitioners and suppliers responded to the market.⁵⁵⁴

Late 2000: *Henna Meme Organisms* Give Rise to New Economic Activities and New Regulations

The replication of *henna meme organisms* increased. Consumer demand for henna increased. Henna artists proliferated in the informal economic sector. Henna artists were quick to defend their income when municipalities attempted to regulate the new henna economies. When city officials conflated henna and tattooing and attempted to ban it, the confusion was interpreted as insensitivity and ignorance to ‘brown culture’ as well as a threat to livelihood.⁵⁵⁵ Concerns about injuries linked to ‘black henna’ were a more serious complication for physicians and potential regulators.⁵⁵⁶

The transitory and informal nature of henna work on summer festivals, boardwalks, and beaches coupled with minimal cultural or legislative understanding of henna left few options for environmental health care officials: warn or forbid. Forbidding henna was unlikely to succeed. Henna was a cultural property for many people who would be incensed at a ban. Warning every person who wanted to have ‘black henna’ like Madonna’ would be difficult, especially convincing artists in the informal sector who were making good money, not seeing the injuries, and who might be distrustful or disdainful of government interference in their livelihood.⁵⁵⁷

2001: The *Black Henna Warning Meme Organism* Evolves Differently in Different Network Environments

At the beginning of 2001, following winter break holidays, the Press Association in England circulated a story with elements and meme organisms that would be replicated every vacation season through the present. A child got a 'black henna' temporary tattoo on vacation, a delayed hypersensitivity reaction followed, her parents took her to a physician when they arrived back home in the UK and the story was covered in the newspapers.⁵⁵⁸ Physicians warned that unscrupulous body artists were using a cheaper alternative to henna which could cause permanent scarring.

Two variants of the story were published the next day, "Little Jessica Jones was left poisoned and scarred by a temporary tattoo she was given while on holiday abroad. The seven-year-old is one of a growing number of victims of unscrupulous body artists who use a dangerous dye instead of harmless henna on Mediterranean beaches. The black dye is applied to the skin by rogue tattooists who use it as a cheap alternative to henna. They are using a dye which they know can be dangerous to make money quickly and people are being left to pick up the pieces afterwards,"⁵⁵⁹ replicated black henna meme organisms; these *black henna meme organisms* replicated rapidly through print and online media. Brian Roberts reported on the same incident in *The Mirror*, again using "rogue" and "unscrupulous" to describe the 'black henna' artists and implied that their practice was cheap and greedy. The physician was quoted as saying that black henna had "dreadful consequences."⁵⁶⁰ The child was described as "poisoned," "scarred," "in agony," and "left to pick up the pieces." The headlines featured the words "Fake Tattoo," "Terror," and "Poisoned by Rogue." This frames the injuries into predator-prey meme organisms.

A week later, a similar story appeared in the South China Post, Hong Kong, about children who received ‘black henna’ temporary tattoos in Phuket, Thailand.⁵⁶¹ Though Hong Kong dermatologist Dr. Lai Chan-fai, quoted in the story, did not attribute the injuries to anything in particular, a variant of the same story attributed the injuries to PPD mixed into the paste, quoting information found on the hennapage.com.⁵⁶² At the end of the same month another story with similar elements was published in the Wellington Dominion, in Australia.⁵⁶³ The story replicated *black henna meme organisms* of PPD and danger that the mother of the injured child had found on the Internet. "I was horrified to see the thing had burnt into his skin," Ms. O'Dowd said. Her tattoo had done the same. She had since found instances on the Internet of people with similar symptoms after being tattooed with "black henna", which contains a toxic chemical. Ms. O'Dowd said she thought their tattoos must have contained this chemical, as they were black, not brown like traditional henna." She mentioned that the ‘black henna’ had not come from an expensive hotel, “Ms. O'Dowd said the tattooist at the Bali Dynasty Hotel had advertised "safe, harmless henna," "I wasn't in some back street alley, it was all above board." But a week later James complained his tattoo was itchy,” not from an ‘unscrupulous, greedy, ‘black henna’ street vendor.’

Though these three injuries are similar, the meme organisms evolved are different among the UK, Australia, and Hong Kong. The UK media attaches scorn and blame to warning, the other two do not. Though the Australian story was headlined as “Tattoo Terror,” and the Hong Kong story with “Children Scarred ...” the story contains less hyperbole and blame as the story from the UK. This story also mentions that Ms. O’Dowd replicated injury and warning meme organisms that she found online into her own understanding of the incident, and to the interviewer.

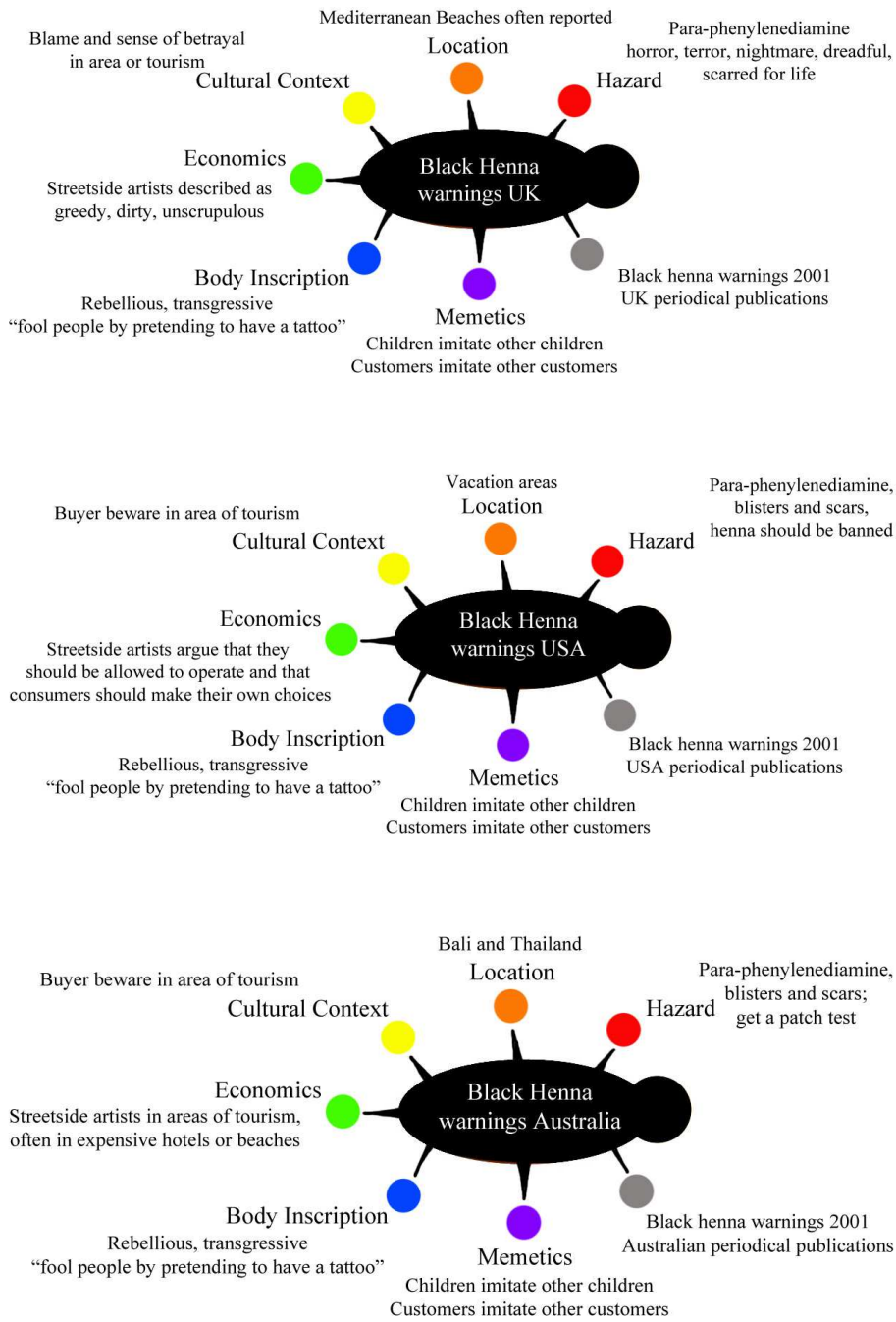


Figure 34: Differentially evolved 'black henna' meme organisms in travel section of English language periodical news media in 2001 and 2002.

The ethnic and cultural diversity stories of henna continued alongside the warnings about ‘black henna,’ with *henna meme organisms* stabilized in the preceding years: with henna attributes of being fanciful, romantic, orientalized texts, links to celebrity, and of women in diaspora using henna as part of their community activities. The *henna meme organisms* cooperating with western orientalism, celebrity, and the curious symbiosis of diversity and brown racial stereotyping would remain stable through the next decade of news stories in travel, celebrity and local sections of periodical news media.⁵⁶⁴

In a Middle Eastern travel publication advertising to an English-speaking potential clientele, an article promoting henna as an object of cultural consumption to tourists replicated western *henna meme organisms* back to the potential western clientele, as ‘returning to the charm of yore’ in Abha, a spa in Asir, a participatory reenactment of an authentic Arab traditional wedding experience complete with henna (without having an actual marriage). The vignette stated, “The women would wear yellow headscarves on hair pasted with henna and perfumed powder and have intricate and beautiful henna artwork done on their hands. A lasting memory for tourists would probably be the generosity of the Asiris who gladly go out of the way to prepare food for guests and entertain them.”⁵⁶⁵

In May of 2001, as the summer street market season approached, Steele Smith, the Artists Liaison for the Bayside District Corporation, wrote a letter to the editor of the *Santa Monica Lookout*, *surfsantamonica.com*. In this letter, Steele attempted to clarify the difference between natural henna and ‘black henna’ to advise consumers on the comparative safety and risks and to define what local areas were apt to have street-side artists selling each.⁵⁶⁶ Steele’s letter indicated that henna artists were only issued permits for artists working with safe materials, so there was recognition in Santa Monica, California, in 2001 that there was a difference between

red and black henna, that black henna contained PPD, and that artists in the informal economic sector were regulated. However, by January 1, 2002, all henna was banned from Santa Monica because of the injuries from ‘black henna.’⁵⁶⁷

Summer lifestyle editors in *South China Morning Post* published an article mentioning the popularity of henna among young people with the ‘wearing less clothing’ season. *Henna meme organisms* of defiance and emulating tattoos accompanied the article from Hong Kong, but with no recognition of the difference between ‘black henna’ and natural henna. The Hong Kong article dismissed any real problem with injuries.⁵⁶⁸ July 15 of 2001, the Singapore *Straits Times* ran an article on a woman who had injuries from black henna painted on her skin while on vacation in Thailand.⁵⁶⁹ Two days later, July 17, 2001, Tamara Thiessen, a freelance journalist, travel and culture reporter, followed the article in the same newspaper. She added information from Professor Bjorn Hausen’s^b article about PPD in ‘black henna’ in the German Medical Association’s journal, *Deutsches Arzteblatt*.⁵⁷⁰

The black henna meme warning organisms proliferated by Hausen and de Bousingen were not that the black henna injuries were linked to ruthlessness or greed, but to the diminishment of a future place in the work force, or to insufficient government regulation. De Bousingen’s claim that the injuries are not occurring in Europe or well-regulated countries brings up an odd contradiction: the company France-based Tarawa, also selling under *blackhenna.net*⁵⁷¹ was an active promoter and distributor of black henna containing para-phenylenediamine during the time his article would have been written, and their website had sales pages translated into English, Spanish, Italian, Portuguese, Swedish, and German, as well as French.⁵⁷² Professor

^b Dr. Bjorn Hausen’s black henna warnings were referenced in fourteen English language news publications between 2001 and 2003, according to Lexis/Nexis search.

Bjorn Hausen's *black henna meme organisms* of danger and injury did not cooperate with memes of 'terror, poison or agony,' but that 'black henna' should be avoided "to prevent young people from the futile discomfort and pain," so that they would be able to have future employment in industries that would expose them to the same and to related chemicals. The meme organisms in the Straits Times did not seem to blame the artist; instead there proliferated a *caveat emptor* meme. The Sydney Morning Herald iterated the same news release, referencing numerous injuries to tourists who had purchased 'black henna' in Bali and Thailand.⁵⁷³ Tamara Thiessen later crafted a similar article for the New Scientist, linking to a person injured by 'black henna' in Venice Beach, California.⁵⁷⁴

The Meme Organism of "The West is to Blame"

Lena Corner's article in *The Bahrain Tribune* replicates previous *black henna meme organisms*: the association with celebrity, subsequent mainstreaming, and the linkage to PPD and injuries.⁵⁷⁵ A variant organism is narrated by Alibhai-Brown, that western popularity is to blame for chemicals being added to henna. The 'the west is to blame' *black henna meme organism* is only partially factually correct, as PPD was documented as injuring women in the Arabian Peninsula as early as the 1980s, but it is often replicated. *The Bahrain Tribune*, covering a "Henna Nights" special in a local shopping mall, advertises that, "For the purchase of every BD15 to BD25 regular painting is offered, on BD26 to BD45 classic painting and on over BD50 brown and black henna painting is available."⁵⁷⁶

The *henna meme organisms* in English language periodical news publications curated in Lexis/Nexis remained relatively stable after the end of 2001, replicating the discourse in the California university news wire:

- red henna is natural and safe
- ‘black henna’ containing PPD causes injuries
- henna is ancient, traditional, meaningful and spiritual
- any pattern from any culture is acceptable
- henna is a temporary tattoo
- the buyer must be wary of chemical temporary tattoo products.⁵⁷⁷

2002: More *Black Henna Meme Organisms* from Medical Journal Articles Replicate into the News Media

In January of 2002, *black henna meme organisms* from another medical journal article replicated into English language periodical news publications through Reuters⁵⁷⁸ as people returned from winter holidays with ‘black henna’ temporary tattoos went to their physicians for diagnosis and treatment. Journalists interviewed physicians to construct their stories and replicate medical *black henna meme organisms* through publication.

The Reuters article pointed to Thailand and Bali, but warned that vacation areas in the USA would soon host ‘black henna’ containing PPD, if they were not already doing so, and that

tourists should be alerted. Victoria Hislop wrote for the London “Sunday Suteleaph” that she and her children had gotten ‘black henna’ in Goa on their holidays, and that the henna artists on the beach were legion.⁵⁷⁹ Victoria repeated materials from Professor Bjorn Hausen’s article on ‘black henna,’ and added physicians mentions of cross-sensitizations from the allergic reaction to PPD to hair and textile dyes, and PABA-based sunscreens.

Henna Meme Organisms Cooperating and Conflicting with Memes of Profit, Local Government Regulation, Culture, Warnings, and Free Will

After Wildwood, New Jersey, and Santa Monica, California outlawed henna because of injuries and the claim that it was too difficult to tell whether artists were using safe materials, the island of North Wildwood, New Jersey also banned henna, though some felt that it was the public’s right to make informed choices rather than have the government regulate safety. The Associated Press reported that, “The ban on the temporary body art stemmed from complaints that the mixture concocted from a henna plant and a dye known as p-phenylenediamine, or PPD, caused rashes and chemical burns. “There’s no way we can distinguish who’s using FDA-approved dyes and who isn’t,” Aldo Palombo, mayor of North Wildwood, told the Philadelphia Inquirer. “So we banned henna tattoos.” Many people contested the grouping of henna with ‘black henna,’ “Wildwood banned the intricate-patterned, dark brown tattoos in January, over the objections of those who argued for their regulation, not elimination, and are challenging the ban in court.”⁵⁸⁰ The mayor of Wildwood, Duane Soan, argued for freedom of choice, “My whole philosophy toward all of this banning on the boardwalk is that I think we’re vastly underestimating the

intelligence of the public," he said, "People in a free society should be able to make their own decisions."⁵⁸¹

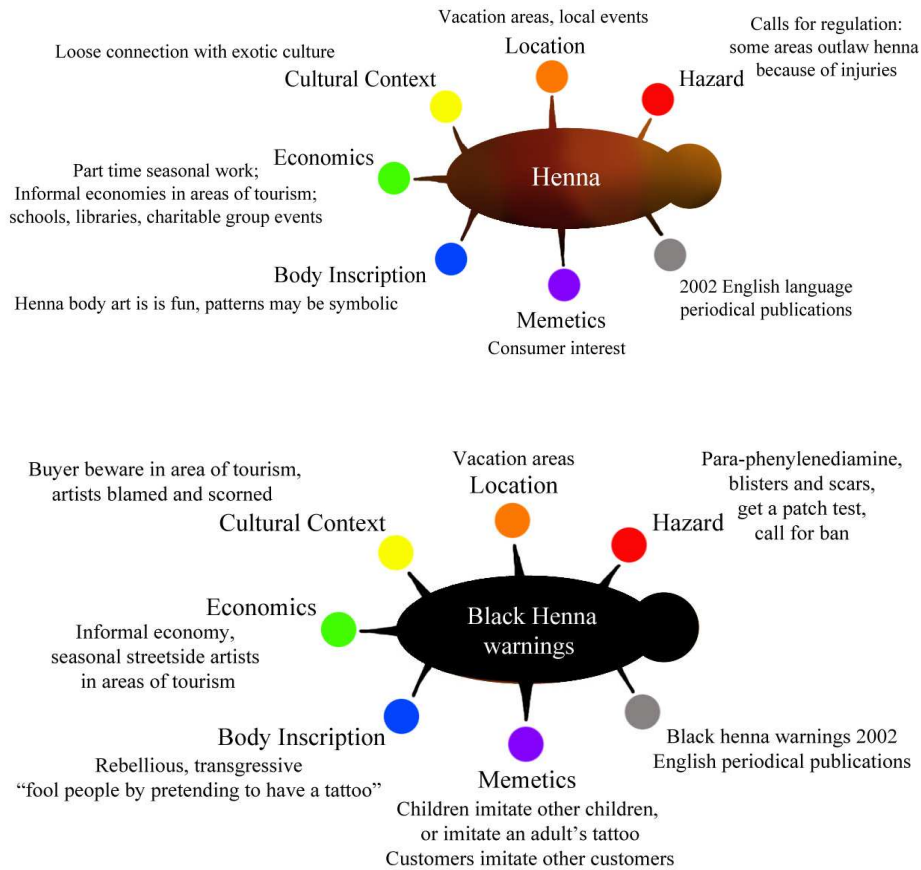


Figure 35: In 2002, *natural henna meme organisms* and *black henna meme warning organisms* stabilized from previous rapid evolution following emergence into the English-speaking west. They were associated with informal economies in areas of tourism, and there were calls for regulation or banning.

The ‘public safety versus free choice’ competing *black henna meme organisms* in Wildwood and Santa Monica mirrored tattoo and body art meme organisms that had been contested for years:

whether government regulations should protect the public from injury or whether the public should be responsible for their own bodies. If people can sue a property owner or local authority for injury from negligence, or insufficient enforcement of safety laws, a government will manage risk by prohibiting the injurious activity. If local governments allow street vendors to sell what they wish and people to purchase what they choose, either because they take a *laissez faire* attitude towards commerce, or whether they simply do not have the manpower to license and inspect street vendors, consumers must inform and warn each other about marketplace consumption. Two vigorously replicating and competing *black henna meme organisms* are “warning, ‘black henna’ is harmful,” and “there should be a law against ‘black henna.’” These *black henna warning meme organisms* competed against, “‘black henna’ is desirable and people may choose it if they wish,” and “there are people who use ‘black henna’ within their cultural practice, and whom are we to say that it is wrong?” From these competing *black henna meme organisms*, actions towards regulation and law began to evolve.

Temporary tattoo skin painting remained easy and profitable in the summer of 2002 and vendors increased in number until the supply met demand. Brief vacations separated streetside artists from clients before the delayed hypersensitivity reactions occurred, so that it was not unusual for ‘black henna’ artists to deny that they have ever seen an injury. Competing meme organisms and tensions between artists using ‘natural henna’ and ‘black henna’ evolved over the question of free will and regulation and whether or not there were injuries; natural henna artists often framing their claim for forbidding ‘black henna’ within moralistic and cultural grounds.⁵⁸²

The injuries in Virginia, USA, were not different from those in Kenya,⁵⁸³ Spain,⁵⁸⁴ or Majorca.⁵⁸⁵ Parents described their children’s injuries as ‘terror,’ ‘agony,’ and long-lasting scars, and warned other parents. Physicians warned of further health problems from PPD. Through 2002

most news articles that mentioned henna made a distinction between natural henna, and that it was safe, and warned of ‘black henna’ as containing PPD and of being dangerous.⁵⁸⁶

By the end of the 2002 vacation season, the *black henna meme organisms* in the news media had evolved and stabilized from their rapid evolution between 1997 and 2001. The geographies of the injuries had spread: reports in UK media reported ‘black henna’ injuries largely originating from vacations in the Mediterranean and east Africa, and focused on individual reports from parents lamenting injured children. Southern Pacific Rim news agencies reported injuries from ‘black henna’ in Bali and Thailand. The USA media reported ‘black henna’ being used in beach areas in the Mid-Atlantic States and the Los Angeles area and that PPD in ‘black henna’ had caused injuries. By the end of 2002, three localities in the USA had banned all henna because of ‘black henna’ injuries.

2003: *Henna Meme Organism* Evolution Slows and Settles into the Networks of Informal Economies, Lifestyles, Multi-Culturalism, and Gains New Territory

In 2003, the *henna meme celebrity organism* had largely gone extinct, but the meme organism that henna can be either red or black remained.⁵⁸⁷ The *henna multiculturalism meme organism* of replicated further into mainstream USA culture.

The henna meme replicated into Korea with the meme organism variants that ‘black henna’ is preferable and that there were some people allergic to the (unspecified) chemical in ‘black henna.’ An artist interviewed by the *Korean Times* indicated a busy schedule, a lucrative business, and a link to a vague South Asian spirituality.⁵⁸⁸ Another Korean black henna artist

commented to the *Korean Herald*, "'Koreans have yellow or honey colored skin, so black henna is more distinct and popular, especially among men," says Lee Hae-seung, who sells henna on the street near Hong-ik University. "Do not forget to test black henna first in small amounts when you have sensitive or allergic skin as it contains chemical ingredients."⁵⁸⁹

The *Manchester Evening News* reported on a 'black henna' injury incident in mid-2003. In the Manchester article, the UK *black henna meme organisms* of anger and blame were repeated by diasporic women whose henna was mixed with PPD. The product referred to in the article was 'black outline henna,' a new development in henna technique where natural henna red-brown patterns were outlined in PPD. The Manchester 'black henna' incident is an unusual report in that women in the diasporic community complain about the practices of specific practitioner in their South Asian community. The mother of the injured girl also commented that complaints about previous injuries were ignored, implying that they may have been ignored because the injured women were brown-skinned, and that any further injured people should report to the health department. Manchester trading standards officers assured that the product would be removed.⁵⁹⁰ A similar case of injuries from outline 'black henna' was reported on a Somali girl living in the USA in *Consultant for Pediatricians*, also in 2003.⁵⁹¹

Legislative *Black Henna Meme Organisms* of Warning and Regulation Evolve in UK, Canada, and the USA

In August of 2003, responding to injury reports, Gisela Stewart, an MP for Edbaston, and former health minister MP, recommended that henna artists be regulated and that 'black henna' tattoos be banned, but other MPs expressed doubt that enforcement would be possible.⁵⁹² Two days after

the House of Commons proposal, Health Canada issued a clear regulation specifying that natural henna was legal, and that any use PPD 'black henna' was illegal. To facilitate regulation, they set up phone lines for people to call in and report black henna, which would be seized and inspected. The Canadian regulation stated, "Under Section 16 of the Food and Drugs Act, no person shall sell cosmetics that contain substances that may cause injury to the health of the user when the cosmetic is used according to the directions on the label or accompanying the cosmetic. Cosmetics containing PPD that are applied directly to the skin are not to be sold in Canada. This includes "black henna" temporary tattoos containing PPD, which are often sold and applied by artisans at markets, fairs and amusement parks."⁵⁹³

At the end of the summer in 2003, Florida Department of Health also issued a statement warning visitors about the dangers of 'black henna'⁵⁹⁴ and issued press releases with photographs of the injuries.⁵⁹⁵ The health department said that it was surprised to learn that henna was being mixed with PPD and that it was a widespread practice; Edith Coulter of the Florida Department of Health stated that the department would begin issuing citations to shops providing black henna temporary tattoos and investigate the scope of 'black henna' in Florida.⁵⁹⁶ The Florida Board of Health set up a website to warn the public about the dangers of black henna and to provide contact for reporting 'black henna,' "Under Chapter 499, Florida Statutes and Chapter 64F-12, Florida Administrative Code, the Florida Department of Health will investigate any reports of the application of temporary black henna tattoos. To report an incident and to initiate a department investigation, please ensure this form is emailed to Gina Vallone and Penny Barwick."⁵⁹⁷ The following year and in all years since, The Florida Department of Health included a warning about 'black henna' temporary tattoos among the usual warnings issued to tourists about jellyfish, puffer fish, sunburns, mosquito bites, and eating undercooked meat.⁵⁹⁸

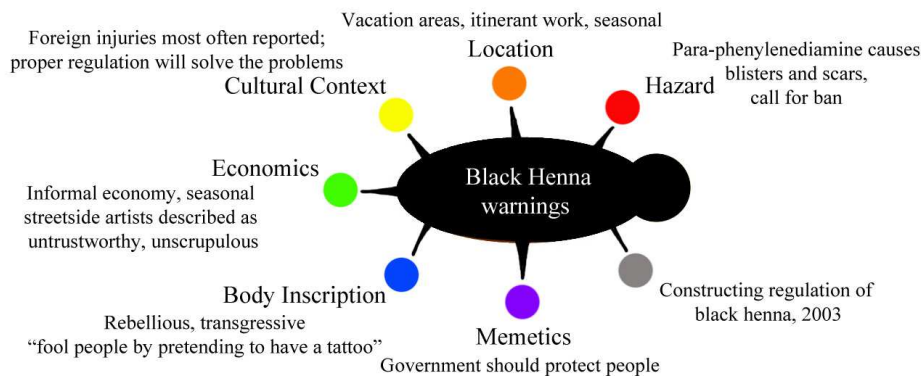


Figure 36: *Black henna warning meme* in English language publications communicated demands for regulation of the henna trade. Doubts arose that the informal, seasonal, itinerant trade could be regulated.

In *Pulse*, a Buckinghamshire publication distributed through the health care system, a physician reported treating children’s summertime ‘black henna’ vacation injuries from Greece and Kenya, describing the difference between natural and black henna, and advising care providers that the injuries were allergic reactions and should be treated as contact dermatitis.⁵⁹⁹ Summer 2003 was a busy season for black henna injuries among vacationers in the UK. Six UK newspaper reports of injuries followed summer holidays. "Girl Scarred for Life by a ‘Henna’ Tattoo," from a vacation in Crete,⁶⁰⁰ "Warning follows Scott's tattoo shocker," from a vacation in Tenerife,⁶⁰¹ "Mother's Fears Over Toxic Mediterranean Tattoos,"⁶⁰² with vacation location withheld, "Girl Scarred For Life By 'Fun' Tattoo,"⁶⁰³ from a vacation in Tenerife, and an article covering several injuries, "SCARRED BY DESIGN," from vacations in Kos, Albir, Spain, and a local incident on Brighton Beach.⁶⁰⁴ The meme organisms that each of these articles had in common were mothers’ laments, physicians’ pronouncements of long-lasting scars, and descriptions of

children's' suffering. Though each story contained warnings and demands for regulation, there is no indication that any artist was contacted, or was able to be contacted about the harm done; all incidents were from streetside traders, in the informal vacation economies.

In comparison, *Mail Online*, in an article from September of 2003 showed little memetic replication of the differences among henna, black henna, and tattooing. The article conflated microtattooing (a shallow insertion of tattoo ink into the skin) and henna, appearing to confuse the two and blend them in injuries acquired while on vacation.⁶⁰⁵

A Seasonal Cycle of *Henna Meme Organism* Replication Evolves in English Language Periodical Publications

In 2004, the incidents and meme organisms attached to the incidents replicated with little change within their network environments. Local events sections featured cultural diversity festivals; replicating the meme that henna was part of exotic cultures and experiencing henna was a way to experience these cultures,⁶⁰⁶ and such experience was a social good.⁶⁰⁷ In the society sections, announcements of weddings in diaspora communities⁶⁰⁸ continued to replicate traditional *henna meme organisms*,⁶⁰⁹ that henna was essential to weddings,⁶¹⁰ that dark stains indicated favor with the mother-in-law, and that the bride's initials were to be hidden in her henna. Travel sections of the newspapers included glimpses of henna when visiting Dubai and other destinations.⁶¹¹

The *henna meme organisms* in English language settled into a seasonal cycle of warning people about to leave on vacation and reporting people's injuries upon their return and this cycle coincided with school holidays for the relevant country. In June, the Florida Department of

Environment Health reissued the 2003 warning to tourists about jellyfish, mosquitoes, and ‘black henna,’ mentioning that though shark attacks were more famously feared, they were in fact very rare.⁶¹² In early July, the *Birmingham Evening Mail* published an article to warn tourists preparing for the summer holidays to not allow children to get ‘black henna’ temporary tattoos on vacation beaches; this article also featured an interview with Nasreen Rajabali, a henna artist in the UK, who had begun to actively warn children about ‘black henna’ through the opportunity of cultural diversity classes on henna traditions.⁶¹³ Nasreen replicated the meme organism that people use black henna are lazy, unscrupulous, and uncaring, and know that they will not be caught and punished. In contrast, a black henna artist named Zai, interviewed in the *Singapore News*, did not indicate awareness of risk, certainly no risk compared to the social stigma that would be assigned to a person who had a permanent tattoo, nor did his young clients.⁶¹⁴

In July of 2003, newspapers in England picked up the stories of children returning from vacations with ‘black henna’ temporary tattoo injuries caused by PPD. The meme organism of ‘black henna’ is a desirable and enjoyable souvenir of summer vacation had vigorously replicated, and the corresponding meme organism of ‘I can do black henna on the beach this summer and make money’ replicated to meet demand. “Mrs. James said: "There were people lining the sides of the main road in Zante, doing hair braiding and henna tattoos." Shortly before the family boarded the plane home, Matteo said his arm was hurting. By the next morning, the whole area of the tattoo was covered in blisters.”⁶¹⁵ The meme organisms of angry parents, suffering children, physicians warning of life-long health problems, and the untrustworthiness of street traders replicated and remained stable within the network environment of English language periodical media in the UK.

The Boundaries of The *Black Henna Warning Meme Organism's* Replication in Resort Management and Travel Agencies

Though most reports of injuries in English language periodical news media were from informal streetside vendors, one injury was from 'black henna' painted in a luxury resort hotel, arranged through a major tourism booking company, Thomas Cook. The injury was the same as those from streetside artists, but the response of the Thomas Cook travel agency implied a different meme organism, "Black henna only rarely causes problems, and we can't be held responsible."

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In a summer 2013 the parents of a similarly injured child's parents contacted Thomas Cook about 'black henna' received during a vacation booked through the their travel agency, an employee answered, "I have spoken to the resort team who have confirmed that we have had no other cases of allergic reactions and I have also checked the feedback on this hotel, again there are no concerns raised regarding Henna Tattoos."⁶¹⁷ Thomas Cook informed them that they would have to contact the individual hotel about the injury.

This report to Thomas Cook nine years after the news article in 2004 shows the black henna meme organism of "this hardly ever happens, and we're not responsible," evolved in other network environments. When a mother confronted a streetside artist with her daughter's injuries, the artist responded with similar denial that there was any potential harm in 'black henna' or that the artist had any responsibility for the injury.⁶¹⁸ When a 14-year-old boy from Groby returned to the black henna artist in Turkey to show him the injuries he had caused, the artist replied that, "he had never seen anything like it. He took me to a chemist and bought me a cream and I've been told that the swelling should go down."

The streetside artists' *black henna meme organism* had evolved in their network environment to be, "I am unaware of any injuries, it is not my fault, I don't know how it could have happened" a meme organism of liability denial similar to that of the hotel and Thomas Cook. A Foreign Office spokesman seemed to have a similar meme organism to Thomas Cook and the artists when asked about black henna injuries, "... no specific advice for families thinking of getting henna tattoos abroad. He said: "If it becomes an issue we would offer travel advice but we are unaware of any problems people are facing at the moment."⁶¹⁹ The *black henna meme organism* had evolved differently in the network environment of the artists and the third space of tourism than it had in the news media and among physicians. The artists and tourism industry denied liability for 'black henna' injuries. Newspapers and injured persons proposed that if there were injuries someone should be held accountable.

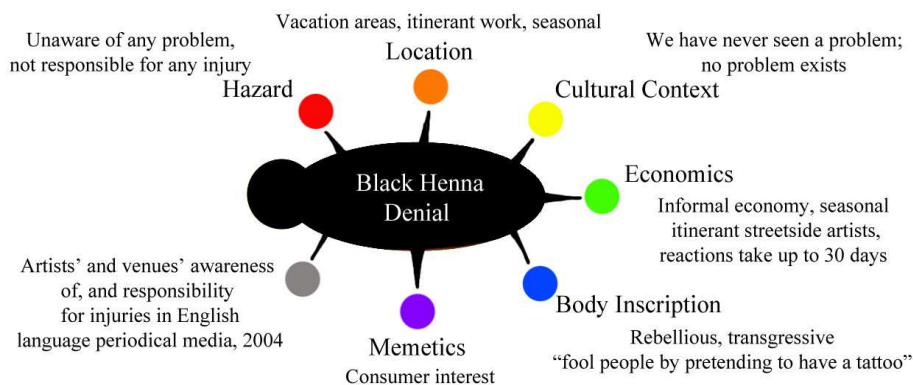


Figure 37: Evolution of the *black henna meme organism* in vendor and tourism management.

Artists and managers claimed to have never seen an injury from 'black henna,' therefore assumed that there was no danger from 'black henna.' The large number of satisfied customers seemed to support their claim. They denied liability and offered patch tests or soothing cream when there was a complaint.

After the articles with reports of injuries were published, more people in the UK called the media to report their injuries.⁶²⁰ Following these reports, the *Leicester Mercury* carried out a poll to ask people to report their injuries from ‘black henna,’ and their impressions of them. Of one hundred sixty six injury reports volunteered, ninety-seven felt that they had been misled about the safety of the temporary tattoo.⁶²¹ The article leaves an unanswered question, did the sixty-nine people who did not respond that they had been misled been given no information at all about safety? Did they not discuss safety with the artist because of a language barrier in a zone of tourism? Did they choose to have ‘black henna’ after having being warned that they could suffer?

At the end of August 2004, far from Mediterranean beaches so often featured in warnings, a ‘black henna’ temporary tattoo street side artist was arrested in Cardiff, England, after several children were injured.⁶²² The city center manager, Paul Williams, recommended that people never make purchases from street side vendors, and that “Anyone who has recently experienced a reaction to a 'henna' tattoo should call Trading Standards on 029 2039 7782.” Through 2004, the meme organism that black henna is harmful and people should be warned had replicated through much of the network environment of the dermatological field, through much of English language periodical news publication, and some government agencies, but there is little evidence that it had replicated through the street trade, nor through the tourism service industries.

In 2005, after repetitions of English language *black henna warning meme organisms* in a physician’s advice column carried by newspapers,⁶²³ the Florida Department of Health warnings distributed to newspapers,⁶²⁴ and warnings in international newspapers⁶²⁵ prior to the summer vacation season in different countries a North Carolina beachfront merchant prepared her stock of ‘black henna,’ unaware that ‘black henna’ requiring hair dye developer, and ‘black henna’ containing PPD were identical. She was encouraged by what she saw as the popularity of ‘black

henna online.’⁶²⁶ She was fairly certain that the warning did not apply to her and her ‘black henna,’ she considered herself to be a shopkeeper who cared about the happiness and well-being of her clients. She knew that all the shops up and down the east coast of the USA, including her area, sold ‘black henna’ temporary tattoos, and that they were popular with the tourists. She wanted people to be knowledgeable consumers. The *black henna warning meme organism* evolved into her memplex as “There may be injuries with ‘black henna,’ but not with *my* ‘black henna.’”

Patch tests were offered as a way to present an appearance of diligence by some artists who had some awareness of the injuries.⁶²⁷ Some artists claimed to give a verbal warning to their clients, though injured people didn’t seem to recall any warning.⁶²⁸ Other artists presumed that if one application presented no problems, a second would be safe, or and some believed that licensing would solve the problem.⁶²⁹

In Australia, tourists returned from Bali with injuries from ‘black henna.’ In one group of ten friends who got black henna temporary tattoos, seven returned injured, and one of those spent ten days in the hospital.⁶³⁰ In comparison to this 70% injury rate among these ten friends, the Cateret County North Carolina Health Department only received eleven injury complaints in 2002, and fewer in the following years. The *black henna injury warning meme organism* replicated in newspapers and replicated among physicians, but does not seem to have been a strong replicator among the ‘black henna’ artists working in the trade. The *black henna denial meme organism* seems to have been a sturdy replicator among people who saw little or no evidence of injury, including artists, shopkeepers, county health officials, hoteliers, and others in the recreation and leisure industry. “The woman told us it was 100 per cent safe and we trusted

her. But Polly's back just came up. It was so badly burned. It was so painful for her. It was heartbreaking."⁶³¹

PPD is awarded the prize of “Allergen of the Year”

At the beginning of 2006, PPD was awarded the prize of Allergen of the Year by *Contact Dermatology*. "All these little kids who become allergic to their henna tattoos will not be able to dye their hair permanently again," Dr. David E. Cohen said at the Winter Clinical Dermatology Conference, Hawaii, where he announced the selection.⁶³² His three points at the conference iterated *black henna meme organisms* that would replicate steadily. Traditional reddish brown henna (he referred to natural henna as ‘ceremonial henna’) was harmless. ‘Black henna’ temporary tattoos had extremely high PPD contents, causing far more sensitization reactions than the PPD in hair dye. People sensitized by ‘black henna’ temporary tattoos would have future extreme allergic reactions to chemical hair dye. Though these were not new evolutions of *henna meme organisms*, they were stated more strongly than they had been six years previously in the early warnings. People often dismissed the allergenicity of ‘black henna’ because of the perception that permanent hair dye had the reputation of being safe and widely used. Cohen point out this was not entirely the case, and that early exposure to PPD at the very high levels in ‘black henna’ was more strongly sensitizing than later exposure in hair dye.

In news stories of family and friend groups who got ‘black henna’ temporary tattoos as a group, reaction rates ranged from 25% to 80%, far more than the 5% hair dye risk quoted by Cohen. Since there were many variables in black henna, dye content, application area, age of subject, and the ethical impossibility of doing comparative testing, there was little known about how

serious the threat to health was from 'black henna,' but physicians were becoming more concerned and the English language periodical publications replicated their *black henna warning meme organisms*.

Black henna warning meme organisms were replicated through the spring through seasonal public service warnings in the USA,⁶³³ UK,⁶³⁴ and Canada⁶³⁵ for vacation areas. The *black henna warning meme organism* replicated partially into a Hong Kong 'black henna' street artist, Chow Pui-sze, interviewed in the *South China Morning Post*.⁶³⁶ Chow Pui-sze claimed to have been doing temporary tattoo art for six years, charging \$200 and up. She acknowledged that people with 'sensitive skin,' might have a reaction, though she did not link it to the ingredient PPD in the Amunez black temporary tattoo paste that she used.⁶³⁷ She associated permanent tattoos, not temporary tattoos, with unwelcome consequences, "If you choose to have a permanent tattoo, there's no way of erasing it. You'll have a permanent scar and residual colour even if you erase it with laser surgery," she said. 'To share the fun' of 'black henna' temporary tattoos, the artist taught courses on Sundays at her studio for \$580 per person or \$464 each for a group of three.

The *black henna warning meme organisms* seem also to have replicated only partially into artists working in Portugal and Majorca, and their clients vacationing there: artists provided a patch test on request, and full work after 48 hours. However, the delayed hypersensitivity reaction from PPD can surface up to a month after application. The parents of their clients went on to replicate more complete *black henna warning meme organisms* to other parents in the *Nottingham Evening Post*.⁶³⁸

Lexis/Nexis had fewer returns of 'black henna' injuries in 2006, though there do not seem to have been fewer injury incidents. Perhaps the injuries were less newsworthy than they had been

in the previous years; the *black henna warning meme organisms* evolved little in the late summer injury reports. A ‘skin expert’ reviewed injured children in Merseyside, and reproduced earlier *black henna warning meme organisms* that people should not patronize street vendors, and that a 24-hour patch test would be sufficient to determine a safe outcome.⁶³⁹

2007: Black Henna Injury and Warning Meme Organisms Spawn Regulations, Law, Enforcement and Liability

In 2006, two North Jersey families’ children suffered injuries from ‘black henna’ applied on vacation and decided to file a lawsuit for damages in 2007. Dean Carnecchia, the owner of “Lola’s Tattoos” where they received the ‘black henna’ temporary tattoos, named Ronald Wells of Black Henna Inc. as the supplier of the ‘black henna.’⁶⁴⁰ The families’ attorney, Rosemarie Arnold, filed suit against Black Henna Inc. The FDA, in August 2006, had demanded that Ronald Wells cease to produce and distribute his black henna, which the FDA found to contain 28% PPD.⁶⁴¹ Wells disputed the FDA’s findings, saying, ““That letter is 97 percent incorrect, and I am challenging them," he said, refusing further comment.”⁶⁴²

Blackhennakit.com sold online PPD ‘black henna’ kits in 2001, sold ‘black henna’ kits online at the time of the FDA demand, and continues to sell their ‘black henna’ kits online at the date of this writing in 2014, though the place of business is now listed as Nassau, Bahamas rather than Sunrise or Coral Springs, Florida, their two previous locations. Based on my experience, a Black Henna Inc. 28% para-phenylenediamine kits purchased online will arrive through the US mail without hindrance or inspection. When people challenge Black Henna Inc. on the safety and legality of their product, they presently receive the same response as has been sent out for years,

claiming that their PPD is cosmetic grade and the risk of injury is minimal, though after 2007, the letter was signed Elle Christian rather than Ronald Wells.⁶⁴³ Their letter claims that they do over 15,000 black henna temporary tattoos per year in their own shop and have had very few complaints, and that the only reason that 'black henna' is vilified is that natural henna artists are jealous of their success.

In May 2007, a bill was introduced to the New Jersey legislature to outlaw PPD 'black henna,' with specific penalties: violations of the PPD-based tattoo prohibition would be punishable under the state's Consumer Fraud Act. First offenders would be fined up to \$10,000. Subsequent violations would be subject to fines up to \$20,000. Violators also could be subjected to injunctive relief, triple damages, and restitution.⁶⁴⁴ A second New Jersey bill outlawing PPD 'black henna' was presented to the legislature. Under the bill (A-940), violations of the PPD-based tattoo prohibition would be punishable under the state's Sanitary Code. Each violation would constitute a separate offense, punishable by a fine of \$50 to \$1,000, recoverable in a civil action. The bill also would require body-art establishments to provide consumers with written notification about the potential risks of temporary tattoos and require a parental signature if the consumer is under the age of 18.⁶⁴⁵

Bill A-940 was passed into law in June of 2010.⁶⁴⁶ The *Newstimes* reported children's injuries from 'black henna' in Seaside Heights, New Jersey two years after these bills were passed into law, five years after these bills were presented in the New Jersey legislature, and nine years after the first New Jersey cities outlawed black henna. The pediatrician interviewed said, "... boardwalk vendors know their customers are probably out-of-towners anyway. "They're there for a week, then they're gone and so is the problem," Golenbock said. "They're not going back to file a complaint or bring a lawsuit."⁶⁴⁷

The Florida Department of Health reiterated their warnings about black henna for the fourth year in a row preceding spring break of 2007 and provided a contact for reporting locations selling black henna temporary tattoos.⁶⁴⁸ In *The News Herald*, the Bay County Department of Health responded, "It's illegal from the FDA's point of view, but nobody from there is around here to enforce it. We don't have oversight of that area. ... even if the FDA found a business that made and sold 'black henna' tattoos, the most the agency would do would be to "confiscate the product, or maybe fine the business. Regular tattoo parlors do 'black henna' tattoos as a side thing, but pretty much anybody can set up a cart and get some PPD and start selling 'black henna' tattoos."⁶⁴⁹

Some shops in Panama City, Florida removed their 'black henna' tattoo signboards after Bay County Health Department Director submitted a formal request to the City Council on March 8, 2007, to enact an ordinance banning black henna tattoos. However, the article stated that she and Panama City Beach City Council members are "in agreement on principle" that 'black henna' tattooing should cease, they did not know how to enforce the ban without "extensive study and review." "Does enforcement require special training?" Oberst asked rhetorically. "Is there a special test for PPD?" As government agencies disagreed on policy, 'black henna' artists in Panama City continued to set up tables near the beach and paint vacationers with PPD⁶⁵⁰ Three weeks after the formal request for a ban was presented, a person posted to her blog about the 'black henna' injury she'd just received in Panama City, and asked for assistance in contacting the artist who injured her.⁶⁵¹

Canada CBC also repeated their early springtime warnings about 'black henna,' quoting a London, Ontario study showing that the rate of para-phenylenediamine sensitization had doubled in six years. 2006 was eight years after the early festivals featuring 'black henna' temporary

tattoos in the Canadian National Exhibition, following the wave of celebrity-emulation.⁶⁵² If London, Ontario's population in 2006 (Canada 2006 census) was 352,395, that would indicate that there were 12,338 known additional cases of PPD sensitization above levels previously caused by hair dye or natural sensitivity, and that these sensitizations would be caused by 'black henna' temporary tattoos, and the reactions would be severe.⁶⁵³ A second article from Calgary, Canada reported similar incidents of severe hair dye reactions resulting from sensitization from 'black henna' temporary tattoos. In both Canada and the USA, the *black henna warning meme organisms* were not proliferating as efficiently as the desire for 'black henna,' and law enforcement did not seem to be having a significant effect on the replication.⁶⁵⁴ Demands for injury compensation summoned the meme organism of legislation and enforcement, or at least vigorous civic warnings against 'black henna.' These were countered followed by the meme organisms of difficulty of determining making a determination of 'black henna,' locating itinerant artists, and monitoring shops that might allow 'black henna' if demanded by patrons, as well as the organism "give the customers what they want, it's their choice and their money." The organism of 'please the customer' seemed to have been replicating steadily in spite of all of the former *black henna warning meme organisms*.

The *black henna meme organism* thrived in the third spaces of tourism. Balinese artists did a brisk business in 'black henna.'⁶⁵⁵ A physician treating a child who had been injured by 'black henna' in Bali looked up 'black henna' injuries in his Australian medical database and found 396,000 entries had accumulated by the summer of 2007.

Children returned home from Mexico,⁶⁵⁶ Greece, and the Costa Brava with injuries from their 2007 vacations. Though news media had disseminated warning memes, artists offered black henna temporary tattoos, and tourists purchased them, for themselves and for their children. It

would seem that when children saw other children narrations of parents being repeatedly begged for black henna, children's urge to memesis is very strong indeed. A mother commented about her children's begging for 'black henna,' "'I was very concerned because I had seen stories in the paper and read about it before and I thought 'They're not having one'. I didn't want to give in to them. It was a street artist near the hotel and we'd seen lots of other children with them and passed a shop, so I thought it must be okay."⁶⁵⁷

An adult on a trip to India to get an Ayurvedic detoxification was persuaded to get black henna from a street vendor readily as children on a beach. The vendors appear friendly, safe, and persuasive. There are dozens of them lining the streets. They have many customers. Humans are imitative creatures. There is little will to decline an attractive purchase that they see other people have already made.⁶⁵⁸

After newspapers replicated multiple *black henna warning meme organisms*, some people were cautious. Parents of children, physicians and legislators urged people to not purchase from street vendors; they replicated the meme organism of proper government regulation as a basis for safety, "This is more likely to happen in developing countries where standards are lax."⁶⁵⁹ So, a woman visiting Morocco went to a government run price-fixed tourist center instead of going to an unregulated street vendor. She was painted with 'black henna' and the injury followed.⁶⁶⁰

2008: Governments and Physicians Call for Bans

Prior to the spring and summer holidays of 2008, Alabama Department of Public Health Alabama and Florida departments of health released statements warning about 'black henna,'

“The asks the public to be aware of the risks involved with getting "temporary" ‘black henna’ tattoos, because allergic reactions and injuries can result. ‘Black henna’ tattoos are popular with children, teens and others, and may be available at coastal beach shops and through other vendors.”⁶⁶¹ Alabama’s spring break warnings were repeated annually, later noting that the problem had spread from beaches inland. “Okaloosa County commissioners recently approved an emergency ordinance that requires all businesses that offer ‘black henna’ tattoos to warn its customers of potential side effects.”⁶⁶² Florida’s warnings included mentions that most of the incidents were in Northwest Florida, and that the number of injury reports was increasing.⁶⁶³

After ten years of ‘black henna’ temporary tattoos causing Type IV delayed hypersensitivity reactions in children and young adults, the second generation of PPD injuries generated warnings in English language periodical news media. Adults coloring their hair or covering gray hair with permanent hair dye had extreme reactions PPD in the dye, including a death, caused by early exposure to high levels of PPD in ‘black henna’ temporary tattoos.⁶⁶⁴

The usual *black henna warning meme organisms* from parents of children who were injured by black henna on vacation in 2008⁶⁶⁵ were joined by new ones replicating from medical articles about the cases of cross-sensitization from ‘black henna’ temporary tattoos. Physicians warned the parents of a child who had a severe reaction to ‘black henna,’ “... for the rest of his life he will be allergic to hair dye, all cosmetics, he will be hypersensitive to the sun but at the same time allergic to most sunblocks. He will be allergic to black clothing and possible other colour textile dyes, rubber products, printer inks, any cream with PABAs (para-amino benzoic acid) in, any antibiotics with 'sulfa' and any drugs/creams with ingredients ending in 'caine’.”⁶⁶⁶

In July of 2008, dermatologist Sharon E. Jacob, MD, FAAD, assistant clinical professor of pediatrics and medicine (dermatology) at the University of California, San Diego addressed the American Academy of Dermatology, saying, "Perhaps the most alarming issue we are seeing with black henna tattoos is the increase in the number of children -- even children as young as four -- who are getting them and experiencing skin reactions," said Dr. Jacob. "Kids make up a significant portion of the population that receives temporary tattoos, because parents mistakenly think they are safe since they are not permanent and are available at so many popular venues catering to families. In fact, nothing could be further from the truth."⁶⁶⁷

The fifteen thousand members of the Academy followed her recommendation that all 'black henna tattoos be banned, they repeated that black henna contains PPD and is very hazardous for use on skin, particularly to children. This story was replicated through wire services in English language periodical publications,^{668 669 670 671 672} as well as through television and online sources.^{673 674 675}

As the academy discussed the problem and the press replicated the *black henna warning meme*, other cultural memes countered them in the third space of tourism. A child begged his mother for black henna on Cabopino Beach, believing that if one application of 'black henna' did not cause an injury, the second would also be harmless. The child was seriously injured by the 'black henna.'⁶⁷⁶ A mother whose toddler enjoyed stick-on temporary tattoos allowed him to have a 'black henna' on a 2008 summer's holiday in Benidorm; the boy had a severe reaction to the 'black henna' that left a permanent Bart Simpson-shaped scar on his arm.⁶⁷⁷ A mother visiting Mexico with her family felt that 'black henna' must be safe for her child, because of the number of artists providing the service, and since the artist was working in a four star hotel, there would

be no threat. She had replications of the cultural memes of ‘if every does it, it must be safe’ and ‘if it is in an expensive hotel, it must be safe.’⁶⁷⁸

Many articles reporting children’s injuries with ‘black henna’ received on vacation mention that the children were very insistent about getting a temporary tattoo. It is possible that children transferred the desire from the meme of stick-on tattoos, and their parents thought that ‘black henna’ might be similarly harmless. Children might have wanted ‘black henna’ because they saw so many other children with it, they might have wanted to either emulate their parent’s permanent tattoos, or to enjoy the appearance of rebelliousness to and show off to their classmates. Mimesis facilitated mimesis, “Loads of other people were letting their kids get them done - there was a big queue. On this particular night, I said 'oh, go on then, let's get it done'.”⁶⁷⁹ All of these have been reported as reasons for children’s attraction to ‘black henna.’

Evidence of the *Black Henna Meme Organism* Replication, Failure to Replicate, and Competition in Commentaries Following two Articles

An online news source in Sheffield, in 2009 carried the article about Vinnie England, and the php thread script allowed follow-up commentary.⁶⁸⁰ The comments⁶⁸¹ showed that the *black henna warning meme organisms* had not replicated vigorously into the readership after eight years of being reported in UK newspapers. A similar story was reported in two online news sources in Australia, The Daily Telegraph,⁶⁸² and News Gold Coast.⁶⁸³ Both news sources included a script for readers’ responses; the responses showed the dispersion of *black henna warning meme organisms* into the readership. Other cultural meme organisms of parenting, wellness, and warning evidenced in the comments; people whose children had been injured by

‘black henna’ in Bali and elsewhere repeated the warnings based on their experiences.⁶⁸⁴ The responses from respondents who did not indicate that they had experienced ‘black henna’ seem to reflect pre-existing cultural meme organisms: if a child is harmed, the parent was negligent and was to be shamed and scorned.’ Other commenters replicated a meme that a scar would make a boy cool, popular, and sexy.

It is notable that the article mentions that the family physician did not recognize the injury; the *black henna diagnosis meme* had not replicated from medical articles to the doctor.

In 2010, an additional subsequent English language periodical media story of an Australian nine-year-old child’s injury from black henna in Bali was published, with the same meme organisms of warning and PDP being in ‘black henna.’ The mother noted the proliferation artists urging black henna on tourists in the informal business sector, “People kept coming up to us offering us the tattoos like they were selling sarongs or souvenirs, she said.”⁶⁸⁵ The online edition of the story was again scripted for commentary from readers.⁶⁸⁶ The commentary from readers is not particularly different from the previous readers’, but it does include a quote from the child, giving a reason for wanting the black henna temporary tattoo, “hey its liam when i got the tattoo, it looked cool because i got it because my dad has a tattoo in the same spot.”⁶⁸⁷ In this case, the child expressed a direct mimesis from the parent, perhaps a more frequent reason for a child wanting a temporary tattoo than reported.

A similar incident in Costa Blanca, Spain, was reported when the family returned to Liverpool, England, after a summer vacation in 2010. The *black henna meme organisms* in this article were nearly identical to those in previous articles in English language periodical news publications in England, replicating parental memes of the mother’s chagrin and anguish, the

description of the injury, the warning to others, and the popularity and seeming harmlessness of the artist working on the beach.⁶⁸⁸ Readers' comments in the online version of the article replicated cultural meme organisms about parental responsibility, the distrust of vendors in foreign countries, and the conflation henna and tattoo as in previous commentary pages, "Now this poor boy is scarred because of his stupid parents. Why on earth would you want a tattoo on a 7 year old, henna or otherwise, how common. Anyone with a small level of intelligence knows henna can cause allergic reactions, especially from an unlicensed and probably dirty tattoo stall in a foreign country."⁶⁸⁹

**2010 – 2013: the *Black Henna Meme Organisms* in the Network Environments in
English Language Periodical News Publications**

The *black henna meme organisms* of people injured in the third spaces of tourism as reported in English language periodical news publications did not evolve significantly between 2009 and 2013, the date of this work. Children still were still eager to get a 'black henna' temporary tattoo, particularly when they saw other children with them. Parents believed that 'black henna' in a hotel would be safer than 'black henna' from a street vendor.⁶⁹⁰ The meme organism of presumed safety in the third space of tourism facilitated 'black henna's' proliferation, "When you're on holiday you just don't expect this kind of thing to happen."⁶⁹¹

There were additions to the *black henna meme organisms* of children's vacation injuries: an increasing recitation of cross-sensitizations, replicated from medical literature on black henna, but the basic *black henna warning meme organisms* stabilized and did not evolve further after 2009.

The *Daily Mail* and *Mail Online* were the most consistent replicators of the *black henna meme organisms* publishing in the English language. These news sources are tabloid style, with features on show business, gossip, and celebrity is politically conservative, and 53% of their readership is female. *Mail Online* seems to have been, and continues to be the most consistent replicator of the meme organism “black henna artists are foreign, unscrupulous, and greedy,” and most regularly features images of concerned mothers holding scarred children. Three million users view mail Online each day.⁶⁹²

Periodical news media English speaking Americas between 2009 and 2013 published articles on ‘black henna’ injuries in nearby third spaces of leisure, entertainment and shopping; close enough that a person could return easily and confront the artist or owner when there was an injury. ‘Black henna’ was available in “many popular sites such as beaches, mall kiosks, boutiques, and even craft stores ... and any place where young people congregate”⁶⁹³ In addition, there were ethnic shopping spaces, “Little India” and “Somali Malls” where people would go for henna as well as imported goods, and where ‘black henna’ was popular and considered desirable, natural, and part of the homeland culture. The dynamic of delayed hypersensitivity reactions and the ability of the person to return to the ‘black henna’ artists is changed when the distance between the donor and host are close enough to return, particularly when there is a chain of legal liability for an injury, and the harm is actionable.

***Black Henna Meme Organisms in Local Network Environments in 2009 – 2013 in
English Language Periodical News Publications in the USA***

If a legal system supports lawsuits for ‘black henna’ injuries, and if the ‘black henna’ defendant can be located and sued, *black henna meme organisms* may evolve legal action and compensation variants. These variants are not viable when the injury occurs in a distant third space of tourism, or when the artist is itinerant. If the artist is working in a permanent location and a person is harmed, legal action may proceed. In 2009, a family sued Opry Mills Mall for injuries resulting from ‘black henna’ done on their child at a kiosk in the mall in Nashville, Tennessee during the summer of 2008. Attorney Stephen Graunberger represented the family, arguing that the FDA banned PPD from use on skin, and that Opry Mills management was at fault for allowing the business to operate.⁶⁹⁴ In April of 2009, another girl was injured by ‘black henna’ purchased at the same kiosk in Opry Mills Mall. When she saw the report of the lawsuit filed by Stephen Grauberger, she contacted the local news station to report her injury; the meme of ‘you can sue for injuries’ replicated.⁶⁹⁵ The *black henna lawsuit meme organism* could only replicate effectively when an entity could be located that could be sued.

In 2008, a person was injured by ‘black henna’ by a vendor in a tourist area in Tennessee. The person warned, “DO NOT get a henna tattoo on Gatlinburg Parkway. Very real danger,” on an online tourism forum,⁶⁹⁶ and said, “You are giving these con artists money to hurt you.” This post, with replications of the meme organisms of the difference between natural henna, vilification of the artists, and warnings replicated to some readers of the forum, but did not replicate to the artists in Gatlinburg tee-shirt shops, or lessors of the spaces. Black henna vendors continued to apply black henna through the 2011⁶⁹⁷ and to 2012 vacation seasons. *WSB TV-2 Atlanta* reported on an injury at a Gatlinburg Tee-shirt shop in 2012. Her local McDonough

physician did not recognize the injury, diagnosing it as an intentional branding, though Atlanta physician, Dr. Rutledge Forney, said that he had seen several similar black henna injuries.⁶⁹⁸

Black henna injury meme organisms had not replicated to McDonough doctors, into Tennessee health departments, or to the artists in Gatlinburg.⁶⁹⁹

In the early summer of 2010, a family visited Myrtle Beach in South Carolina and their 13-year-old asked to have a black henna temporary tattoo from a shop on Ocean Boulevard. Though two children were hospitalized from black henna injuries in Myrtle Beach in 2005, the state had issued a health advisory but not a ban; black henna was easily available at beachfront shops in 2010, and remains so in 2014. "... the tattoos are unregulated, so all state health officials can do is give a warning to consumers. "They should just be very careful, be very cautious, and maybe go in and ask some questions before making the decision with the procedure," said Adam Myrick, SC Dept. of Health and Environmental Control." "Mason's mother says she was assured by the operator of the tattoo shop that PPD was not an ingredient in her son's tattoo."⁷⁰⁰

Injuries in shopping malls and tee-shirt shops may have been facilitated by seasonal turnover in sub-lets of kiosks and table space. There was a replication failure of *black henna warning meme organisms* and replication success of *black henna meme organisms* of safety, profit, and desire through artists and their potential clients. When injuries occurred in a location where a responsible party could be identified and served, some people pursued compensation for injuries; to fill this opportunity, some US and Canadian law firms advertised a free evaluation of black henna injury claims.⁷⁰¹

Television coverage of injuries replicated *black henna injury and warning memes*, occasionally arousing regulatory action. A teenage boy got his girlfriend's name painted on his back with

'black henna' at the Oklahoma State Fair in 2010. His reasoning was, "We've been dating for three weeks so I was like 'You know what, I'll get a cross with your name'." ⁷⁰² After reporting the following injury to the local television news station consumer affairs department in Tulsa, Oklahoma, investigative reporters contacted the 'black henna artist,' Orhan Erkin, on the phone. Erkin said, "Who knows which one is real Henna, fake Henna, who knows?" claiming that he'd been using it for 10 years, and that this was the first time someone had a reaction. ⁷⁰³

Oklahoma legislators and State Fair operators visited other fair venues, and found other artists using natural henna. One artist stated that he had previously used Bigen Oriental Black Hair Dye and changed to a different medium when he had seen the injuries. He said, "You can go to Sally's Beauty Supply and buy that stuff (black henna)," the artist said. "It's hair dye and it's \$4-\$5 a case and you're making thousands of dollars off of it." ⁷⁰⁴ The Oklahoma State Department of Health promised to step in and prevent black henna artists from vending during the next season. A year later, returning to the same venue, Consumer Watch reporters found Erkin again. ⁷⁰⁵

'Black Henna' Injuries and the Meme Organisms of Cultural Conflict

In 2010, Montreal, Canada, banned all henna artists from working in the Ville Marie with other buskers and artists; artists claimed that the ban was discriminatory. "Henna tattooing "is not an activity that corresponds to a tradition here in Quebec," said Demers, head of the cultural division for the borough." "It's not a recognized discipline anywhere," Demers said of henna tattooing. Even if henna tattooing were recognized, he added, the city isn't required to issue a vendor's permit for every art form. Morin and other henna tattoo artists who had worked in the

square for over ten years claimed this was discrimination on the part of the borough and the Ville Marie Commercial Development Corp.⁷⁰⁶

The ban appeared to the artists to be discriminatory and based on ethnicity, some artists may have been of French-speaking African diaspora who would have used 'black henna' from cultural practice. A pediatrician responding to the article welcomed the ban because of children injured by 'black henna,' still prevalent though it had been declared illegal by Health Canada seven years earlier. The pediatrician stated, "No permits for henna tattoo artists in Place Jacques Cartier? Good news for allergy sufferers and doctors who have to treat them! Every year we see youngsters who react to the henna tattoo mixture with itching, swelling, and blistering, leading to long-term skin darkening in the outline of the original tattoo. Henna is "natural," yes, just like ragweed and snake venom."⁷⁰⁷

Black henna cultural tradition meme organisms replicating among people in diaspora came into conflict with meme organisms of trust, guilt, and warning in cities in the USA. These conflicting meme organisms were reflected in English language periodical news publications, incidents in schools, and personal reports of injuries.

The Somali diaspora community in the Twin Cities, Saint Paul and Minneapolis preferred and regularly used black henna, products that were popular in their home country. Their packages of Piku (Peacock brand hair dye) and henna rock (PPD) did not disclose the existence or levels of PPD. White clients were delighted to discover and patronize the 'black henna' artists in the Somali Mall. "You really don't need to leave the henna on longer than it takes to dry. They don't use the brown concoction I've seen in other places. Once the henna has dried it is black as night on your skin. LOVE IT!"⁷⁰⁸ When injured, white clients were often hesitant to complain or sue

the Somali businesses and artists. One injured woman said, "I'm reluctant to go back to the place and make a stink about it - Nicholas attributes this to "white guilt," because, he's inappropriate like that."⁷⁰⁹

The 'black henna' artists working in the Somali Mall, Karmel Square, were recommended to a family as a place to get henna. When their daughter's black henna blistered and the family reported it to the *Star Tribune*, the Minnesota Department of Health stated that it could do little because it "does not have a regulatory role monitoring henna art or any adverse reactions to henna; henna tattoos do not fall under the umbrella of the Minnesota Body Art Statute,"⁷¹⁰ which covers only tattooing and piercing.⁷¹¹ There is no reason to assume that the Somali were the only henna artists using 'black henna' in the area, but the sense of authenticity that the Somali brought to the *black henna meme organism* made it more plausible and desirable, and contradicted any *black henna warning meme organisms* that might be present.

Cultural diversity programming in the schools had replicated *henna meme organisms*, and students had been taught that henna was a harmless plant and used for celebration. When a Twin Cities ninth-grade class chose a henna artist come for celebratory graduation party, the artist brought her own henna and made painted black patterns on the children. Over a dozen of these children developed staph infections from the blistering that followed. The henna artist told one of the mothers she did not use 'black henna;' the artist was not available for comment to the press.⁷¹²

Another group of eighth grade children also had a graduation party with henna as a treat, and were reported in the news. Half of those children developed blistering reactions to the 'black henna.' "MDH has been investigating reports of allergic skin reactions in a group of 35 Twin

Cities eighth-graders who had been given temporary tattoos using a dark-colored material. About half of the children had skin reactions, which included blistering and weeping lesions. In most cases, the lesions appeared within 20 days of getting the tattoo, and half occurred within 7 days.”⁷¹³

After 2008, there were steadily fewer reports of ‘black henna’ injuries in English language print periodical news media. This may be due to several factors other than a decline in ‘black henna’ injuries. The print media had declined following the market increase of the home computer, with a sharp decline following the 2008 recession.⁷¹⁴ Print media formats shrank, page numbers decreased, reporters and editors were dismissed, and the number of publishers decreased. Online news media first augmented and then gradually replaced print media. Online news media was able to display full color images of ‘black henna’ injuries more easily than print because of the expense of ink on paper was eliminated.

As the availability of ‘black henna’ increased responding to consumer demand, especially in the African, South Asian, and Arabian Peninsula markets, the proliferation of shopping areas of diasporas goods, and third space retail markets, the injuries increased, at least as far as I can estimate through queries I received from personal emails, dermatologists, ER’s, blog entries, and facebook posts. The reporting of these injuries in periodical news media may have decreased because ‘black henna’ injuries were simply no longer ‘news,’ or the people who were injured were not considered “newsworthy.” Previous English language periodical news stories on ‘black henna’ injuries largely featured white children injured in the third spaces of tourism. I found very little coverage of ‘brown adults’ being injured by ‘black henna’ in their own community spaces, though ‘brown adults’ were patrons of ‘black henna’ and physicians treating them raised concerns about the number and intensity of the injuries.

In the spring of 2013, the FDA issued a news release to news services warning about black henna prior to spring and summer vacations.⁷¹⁵ This release replicated the usual meme organisms of henna and black henna.

You may be familiar with henna, a reddish-brown coloring made from a flowering plant that grows in tropical and subtropical regions of Africa and Asia. Since the Bronze Age, people have used dried henna, ground into a paste, to dye skin, hair, fingernails, leather, silk and wool. This decoration—sometimes also known as mehndi—is still used today around the world to decorate the skin in cultural festivals and celebrations.

However, today so-called "black henna" is often used in place of traditional henna. Inks marketed as black henna may be a mix of henna with other ingredients, or may really be hair dye alone. The reason for adding other ingredients is to create a tattoo that is darker and longer lasting, but use of black henna is potentially harmful.

That's because the extra ingredient used to blacken henna is often a coal-tar hair dye containing p-phenylenediamine (PPD), an ingredient that can cause dangerous skin reactions in some people. Sometimes, the artist may use a PPD-containing hair dye alone. Either way, there's no telling who will be affected. By law, PPD is not permitted in cosmetics intended to be applied to the skin.

You may see "black henna" used in places such as temporary tattoo kiosks at beaches, boardwalks, and other holiday destinations, as well as in some ethnic or specialty shops. While states have jurisdiction over professional practices such as tattooing and cosmetology, that oversight differs from state to state. Some states have laws and regulations for temporary tattooing, while others don't. So, depending on where you are, it's possible no one is checking to make sure the artist is following safe practices or even knows what may be harmful to consumers.

A number of consumers have learned the risks the hard way, reporting significant bad reactions shortly after the application of black henna temporary tattoos.

This 2013 statement contained a new policy that had not been in previous statements on henna: the FDA said that though it is illegal to put PPD on skin, it was the states' responsibility to create and enforce laws on 'black henna' in the USA (and this may imply that states are responsible for all for temporary tattoos and henna). In many of the articles on 'black henna' injuries in the USA, when people contacted the local or state board of health, they were told that they had no

power to regulate ‘black henna’ temporary tattoos. So, though applying PPD to skin was clearly illegal and harmful, bodies in the USA willing to write and enforce legislation on black henna were lacking.

The FDA press release did have the effect of formalizing and disseminating *black henna warning meme organisms* widely and immediately. The release was replicated by *National Public Radio*,⁷¹⁶ the *Miami New Times*,⁷¹⁷ *Healio*, a dermatology review,⁷¹⁸ *Examiner.com*,⁷¹⁹ the *French Tribune*,⁷²⁰ the *Global Post*,⁷²¹ two news sources for the Philippines,⁷²² ⁷²³ *International Business Times*, Australia,⁷²⁴ and dozens of other iterations across websites, health and advice blogs, and other English language news sources.

Despite the broad dissemination by 2013 of *black henna warning memes* through periodical news publications and government agencies, *black henna regulatory memes*, and *black henna litigation memes*, the traffic in black henna did not diminish. The *black henna profitability meme organism* cooperated with the impulse and desire to emulate permanent tattoos in the third spaces of tourism.

Following the FDA warnings and the replications of the warnings, a person visited Daytona, Florida and found black henna temporary tattoo booths in tee-shirt shops and took photographs which she posted on to a henna group on Facebook. The backdrop only said “Henna Tattoos,” but the materials at the side were PPD, chemical developer to activate the chemical, and transfer sheets for the artist to apply a pattern to the skin, and paint PPD within the lines.



Figure 38: “For real! On every corner in Daytona, at every tshirt/ souvenir shop. Sad. Even if I addressed it with them, it wouldn't be the owner, just some employee getting paid minimum wage to damage ppl a skin. And I saw no less than 10 stores like that with the sign that says "henna". Sad. My first "henna" was on beachside, one of these abominations.”⁷²⁵

An artist’s choice to paint skin with para-phenylenediamine may have been from pressure to serve the clientele or to keep income flowing. A California henna artist confirmed to ABC news in 2013 following the FDA press release that customers still routinely requested black henna. “(I get) ... plenty of questions about black henna. "I lose a lot of clients," said Seretta. "Anytime I'm doing an event. And they ask me, 'do you do black henna'? And when I say no, I actually lose a lot of people.”⁷²⁶

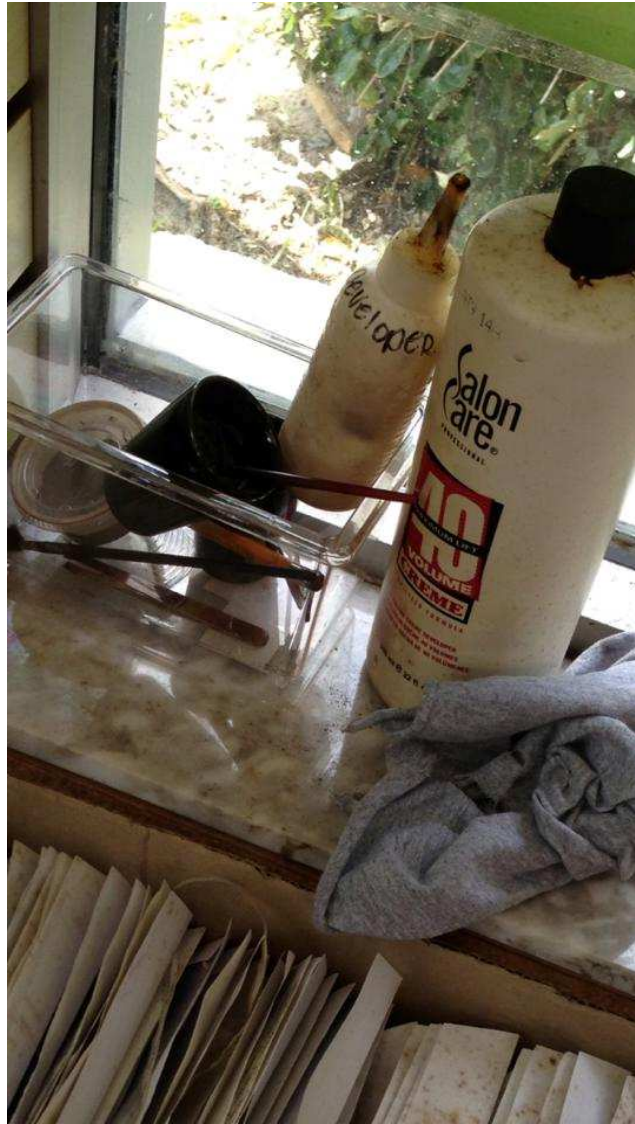
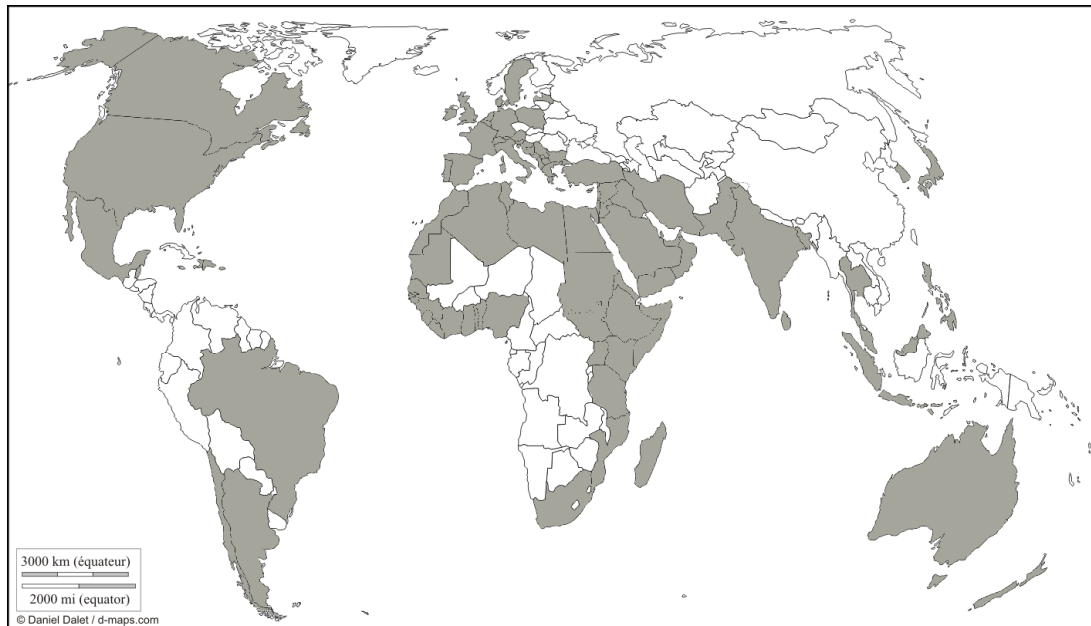


Figure 39: Black henna artist's materials and tools in a Daytona shop, June, 2013: 40 strength developer to activate the PPD in 'black henna' temporary tattoos, rag and stencils. Desi Conrad commented, "Just like Myrtle Beach, actually." Victoria Welch commented, "Wisconsin Dells is the same."⁷²⁷

English language reports of people getting 'black henna' temporary tattoos in spaces of tourism continued. By the summer of 2013, "Research by the association reveals that one in 10 Britons

has been tattooed, and that in 57 per cent of cases it was done abroad. However, the industry body, whose members include manufacturers and suppliers of ingredients used in cosmetics, said the dye used in black henna tattoos is unsafe if painted directly on to the skin.”⁷²⁸ From the context of the article, this number presumably refers to ‘black henna’ temporary tattooing, and this number is similar to other informal questions about how many people have had ‘black henna.’ If 10% of the sixty-three million population of Britain had black henna temporary tattoos by 2013, and 25% to 50% of them were sensitized by the application (given various estimates of sensitization based on size of application and dye content), twenty two million people in Britain were sensitized to all products containing PPD by black henna temporary tattoos.

In some English language network environments where the *black henna warning meme organisms* failed to replicate artists and their patrons stayed busy through the summer of 2013. There may have been language boundaries beyond which the warning memes replicated poorly. Perhaps replication failures occurred because people ceased to take warnings from the news and government seriously because warnings are frequent. Perhaps replication failed when people believed that they might defy warnings and not be harmed. Perhaps replication failed when the urge to imitate peers purchasing ‘black henna’ was irresistible, or perhaps replication failed in competition with belief that shop selling ‘black henna’ must be harmless or it would not be in business. The *black henna desire meme organisms* frequently replicated more effectively than the *black henna warning meme organism*. Producers of ‘black henna’ were keen to serve customers, and though some customers knew that ‘black henna’ could be dangerous, there were plenty of customers to keep ‘black henna’ artists busy and lend plausibility to claim of harmlessness.⁷²⁹ An artist who made his living in Bali by painting people with ‘black henna’ was interviewed by the Jakarta Post stated that there was never any problem with injuries.⁷³⁰



● Countries with evidence of para-phenylenediamine being used to create black temporary tattoos between 2000 and 2013, based on English language sources.

Figure 40: Evidence of body painting with ‘black henna’ by 2013, in conjunction with cultural use of henna, in diasporic cultural use of henna, and in areas of tourism, based on English language online sources.

Sharot, Korn and Dolan found that people often overestimated their personal level of risk, even when they were familiar with risk levels.⁷³¹ "It suggests the brain is picking and choosing which evidence to listen to ... the brain sometimes comes up with overly optimistic answers despite the evidence."⁷³² The effect of optimism, or “bad things won’t happen to me” affected the replication of *black henna meme organisms*, in that when artists, clients, and vendors were aware of health consequences, they chose to trivialize the risks.⁷³³

Black henna meme organisms evolved differently in the network environments of ‘black henna’ vendors, artists, and their clients than it had among people who reported injuries to English

language news periodicals. More articles published featured foreign 'black henna' injury sources than domestic, though domestic 'black henna' artists were always present. More children were featured in injury stories than adults, though adults were patrons of temporary tattoos. Dark skinned people were rarely featured in injury stories; though dark skinned people were majority consumers of 'black henna' skin markings, particularly in African, Arab, and South Asian cultural use of henna.

CHAPTER IV. MATERIALS PART 2: VENDOR'S MEMES

The Evolution of *Black Henna Meme Organisms* in Online Vendor's Statements

The early applications of PPD as 'black henna' in Saudi Arabia,⁷³⁴ India,⁷³⁵,⁷³⁶ Sudan,⁷³⁷,⁷³⁸, Egypt,⁷³⁹ Tunisia,⁷⁴⁰ seem to have been straightforward mixtures of PPD from black hair dye into a henna powder base, or PPD activated with peroxide; an adaptation of modern materials to more efficiently accomplish traditional labor-intensive henna applications. These appear to have been individuals having either individually evolved the technique or imitating the process from another person and replicating a technique in horizontal localized memetic learning. Some mention the typical delayed hypersensitivity reactions,⁷⁴¹ and some presented to a physician or hospital with severe reactions.⁷⁴²

These tradition-based *black henna meme organisms* replicated within their local network environments, and injuries were framed of within the local cultural environment of wellness; women's styling included a tolerance for suffering some discomfort for the sake of beauty and status. Sugaring (depilation), ear piercing, surgical genital enhancement, hair styling, and wearing movement-restricting garments are all as well as tolerated within the social construction of women's styling as wearing uncomfortable but fashionable shoes. Some women presently continue to 'black henna' to paint their skin even though they are aware of potential allergic reactions and have personally experienced them.⁷⁴³ In Sudanese culture, achieving a black stain in an hour must have seemed a great convenience compared to the traditional five-day bridal procedure for creating black from henna.⁷⁴⁴

Artists and clients might have continued to give joy or injury to their clients and friends and in bounded social environments there would have been some level of injury report back to the artist, negotiated within the cultural acceptability of risk and benefit, and possible eventual recognition and regulation. This has been the case for ‘black henna’ in salons in the Arabian Peninsula, with attempts at government regulation to manage risks from adulterated henna in 2011 and 2013

The ‘black henna’ market changed through increasing demand following the Modern Primitive movement in the west in the 1990’s. Communication and trade through the internet and the use of ‘black henna’ to emulate tattoos in the informal economies of tourism; the marketing of and exposure to PPD rapidly spread globally. Some vendors took advantage of this potential market and created online sales sites. Others simply purchased a source of high dye-content PPD and repackaged it or used it in their own practice. I have listed the following English language websites selling para-phenylenediamine for the purpose of skin painting because they had relatively high search rankings. Their presentation of *black henna merchandising meme organisms* disseminated globally to a network environment of potential clients. These websites were a small fraction of the sources from which an artist could purchase PPD to create ‘black henna.’

Vendors’ *Black Henna Merchandising Meme Organisms*: Amunez and Tarawa

Amunez stated that they developed their temporary tattoo product in Australia in 1997, when ‘black henna’ temporary tattoos were rapidly increasing in demand for the vacation and festival market. It would have been a logical marketing innovation to make a high PPD content paste

optimized for artists rather than for hair dye; if hair dyes were declared to be safe for use, why would one not apply it to skin? Australia had no legally enforced limit on para-phenylenediamine concentrations in hair dye.⁷⁴⁵

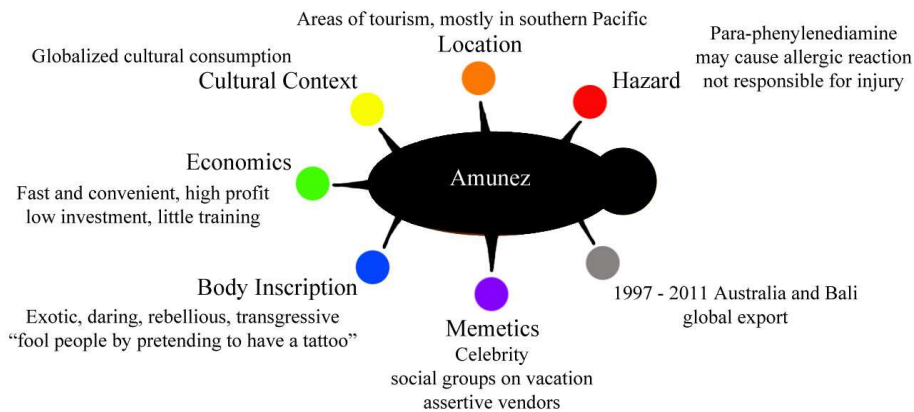


Figure 41: Amunez *black henna meme organism*

Internet Archive Wayback Machine began tracking the Amunez homepage in August 2000, but Amunez's offline marketing began earlier. A tourist in Bali had heard about them in 1999, and asked where she could purchase some to take home with her.⁷⁴⁶ I place Amunez's initial page here, for the purpose of meme organism identification, and for comparison to other black henna vendors' statements.

Amunez Temporary Tattoo paint first came onto the market in late 1997. It was created mainly because, prior to this formula discovery, the only 'temporary' body art products on the market were henna and Mehndi. Both of these products worked quite well, but required laborious preparation of the skin and some careful maintenance afterwards. Besides, the henna and Mehndi products, in a majority of instances, lasted only a few days.

In late 1997, Amunez International was founded in Australia, taking the name from history records that detailed an Egyptian Priestess of that name who, in the year 2000BC,

instructed her inner counsel of servants to decorate her body with the elaborate symbols of the Gods...by way of painting tattoos.

After six weeks of research and laboratory experiments, we created a formula that consisted of a chemical paint powder and a catalyst binding solution. When mixed in the correct proportions, and in the correct manner, a smooth black paint resulted. Artists around the world are now recognizing that our finger and body art product is the cheapest in the world on a "per tattoo" basis. 50grams will complete 250 large designs. These fake tattoos, once applied to the skin, look fantastic and realistic and last anywhere between 7days and 6 weeks, depending on skin type. No preparation of the skin is necessary, and there's no maintenance afterwards. Very simple to make up and apply. Anyone can do it!

We have professional kits available for those who want to start their own business, and there are D.I.Y. (Do-It-Yourself) body art kits available for those who wish to have fun with themselves, family and friends. Our temporary tattoos can now be found in over 21 countries around the world, and regular enquiries are received at our head office in Bali from artists in the pop music and movie industries and even sporting personalities.⁷⁴⁷

The meme organisms on their website index page echoed the English language online meme organisms from the late 1990's. Natural henna was inconvenient, difficult and unsatisfactory in the competitive, impatient western market. Amunez promised to provide a high profit margin for the artist with little training or artistic ability. Amunez attached memes of pop music, celebrity, emulation of tattoos, and some faux ancient Egyptian ritual to their product. They listed their headquarters as being in Bali, though their banking connection was in Australia. Their distributor list, retail sources, and artists' studios using their products spread over twenty-one countries in 2000.⁷⁴⁸ They listed testimonials from happy customers.⁷⁴⁹ The Amunez website displayed proud and smiling faces of people who enjoy their work painting people with 'black henna.'⁷⁵⁰

Amunez's ingredient declaration was, "Ethyl cellulose, methosulfate, titanium dioxide, distearoylethyl hydroxyethylmonium, methylparaben, cetearyl alcohol, cetareth-20, and may contain: iron oxide, p-phenyldiamine, C11623, C115510, C145410, C144090, C142510, C111055, C156059, C112719, carmine, 4-hydroxypropylamino-3-nitrophenol."⁷⁵¹ In addition, they

declared the product to be lead-free. The list was revised on the same url, captured on April 1, 2004, changing the position of ‘may contain,’ and declaring the para-phenylenediamine content to be 2.94% The page changed to ‘Not Found’ on the May 10, 2007 capture by the *Internet Archive Wayback Machine*. In 2011, Amunez announced that it had been purchased by Worldwide Costumes and Cosmetics LTD in Hollywood California, and ceased to operate online.⁷⁵²

Amunez ‘Black Henna’ and *Black Henna Merchandising Meme Organisms* Replicate into France through Tarawa, *blackhenna.net* and *blackhenna.com*

Tarawa owned a tattooing and piercing studio at a beachfront shop in Cap d’Agde, France, painting black henna para-phenylenediamine black henna temporary tattoos clients, and beginning retail and wholesale sales of black henna online in September 1998.⁷⁵³ The Tarawa website was primarily in French, also translated into English. The section devoted to black henna was subsequently linked as *blackhenna.net* and *blackhenna.com*, both from the same location.⁷⁵⁴ The *blackhenna.com* site was translated into French, Spanish, English, Portuguese, Swedish, and German. The first capture of the direct ‘black henna’ sales page from *blackhenna.net* by the *Internet Archive Wayback Machine* was in 2000, with phone, fax, Visa and Mastercard ready,⁷⁵⁵ and the last capture of the sales page in August 2003.

The page included a disclaimer about allergic reactions and a statement that once the product left the company’s hands, Tarawa was not to be held responsible for injuries in any way.⁷⁵⁶ Much of Tarawa’s ‘black henna’ product description and text is identical with Amunez marketing; they appear to have been distributing the Amunez product.⁷⁵⁷ They replicated *black henna meme*

organisms from Amunez to their own customers.⁷⁵⁸ The inevitable sequence of injuries, liability, and regulation followed; Tarawa returned to selling natural henna and body jewelry, and ceased selling PPD skin paint five years after they had begun selling ‘black henna.’

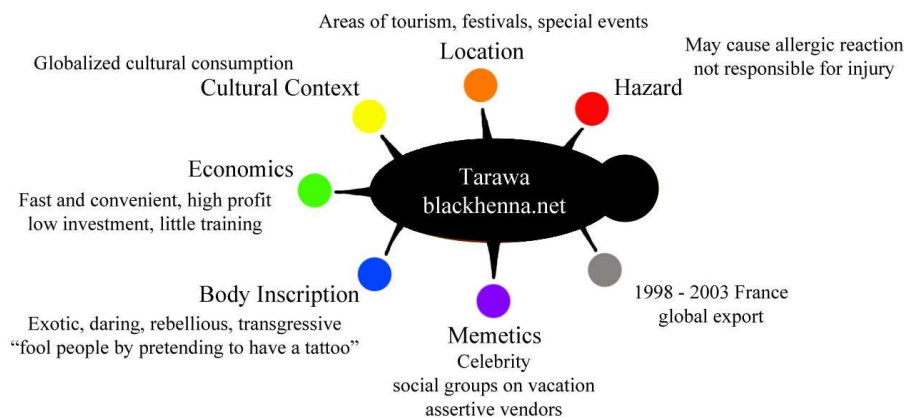


Figure 42: The *black henna meme organisms* of Tarawa and *blackhenna.net*

The *Black Henna Merchandising Meme Organisms* of Amazing Body Art Supply, 1999 – 2001

Online ‘black henna’ vendors advertised with merchandising meme organisms that would promote their product. These attractive memes replicated into the network environments of the artists and their customers. The *Internet Archive Wayback Machine* first captured Amazing Body Art Supply in January 1999 and last captured the site in the summer of 2001 with the business address of 270 North Canon Dr., Suite. 1934, Beverly Hills, CA 90210.⁷⁵⁹ They sold a pre-made paste and recommended that the artist add their ‘Amazing’ black powder to make a perfectly black stain on skin.⁷⁶⁰

Their promotion to their prospective clients mirrored the demand for ‘black henna’ at the time. “Big Bang Products Amazing BodyArt of Hollywood, Your mega site for henna/mendi Kits & Supplies!” displayed the *black henna merchandising meme organisms* that the seller hoped would entice clients to purchase their ‘black henna’ product,⁷⁶¹ including claims that their product would make ‘\$20 dollar bills rain down while the artist sat in a lawn chair.’ The first capture of this promotional page by the Internet Archive Wayback Machine was on May 22, 1999. Amazing BodyArt denied that there was potential harm in their dye.⁷⁶² The ingredient declaration did not provide details of the dye included, other than that there was a ‘synthetic color.’ This color was not further identified, though if peroxide was the activator, and the mixture became exhausted 90 minutes after mixing, the ‘synthetic colour’ was PPD. Big Bang added a disclaimer describing an allergic reaction and bumps raising under the tattoo, captured in March of 2000; there were no page captures after August 3, 2001.⁷⁶³ Testimonials for this product were first captured October 2, 1999, and last captured June 28 of 2001.⁷⁶⁴

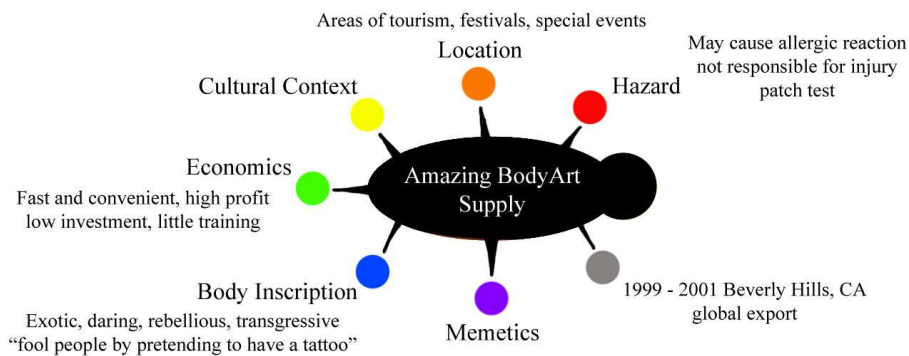


Figure 43: *Black henna merchandising meme organism* of Amazing BodyArt Supply ‘Black Henna’

Big Bang Products did business as Amazing Body Art sold black henna for two years online. After August 2001, *Amazingbodyart.com* ceased to advertise ‘black henna’ online and was purchased by a different company that sold natural henna products and warned against PPD. Big Bang Products continued to do business selling other products for several more years.

The Black Henna Merchandising Meme Organisms of *Blackhennakits.com* 2001 – 2013

*Blackhennakits.com*⁷⁶⁵ began selling a ‘black henna’ temporary tattoo product online by December 2001, based on captures by the *Internet Archive Wayback Machine*. Of these large online sellers based in the west, Amazing BodyArt Supply, Tarawa, and Amunez, only *blackhennakits.com* currently offers PPD black paint sold for use on skin as a temporary tattoo though The FDA, in August 2006, demanded that the owner cease to produce and distribute his black henna, containing 28% PPD.⁷⁶⁶ The *blackhennakits* index page replicated the *black henna merchandising memes* of previous online ‘black henna’ sellers.⁷⁶⁷ The risk of sensitization was briefly mentioned in the FAQ.⁷⁶⁸

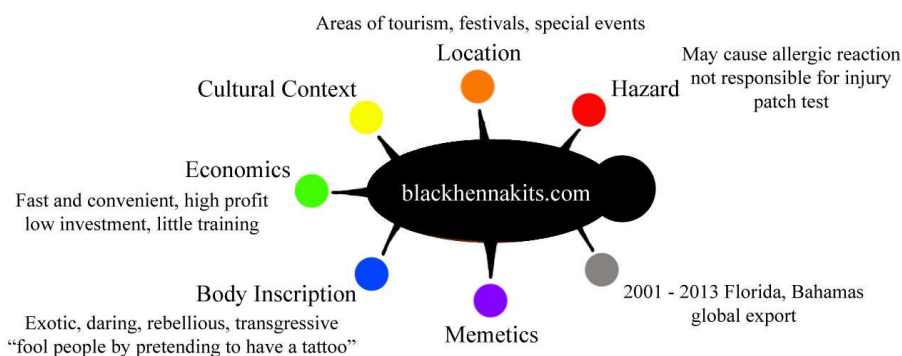


Figure 44: The *black henna meme organism* of *blackhennakits.com*

Amazing BodyArt Supply and Black Henna Kits used text with meme organisms adapted from ‘Get Rich Quick’ schemes. They implied that an artist would begin making money immediately with their product. They implied that they have a ‘secret formula’ that could be found nowhere else. They urged the artist to sign up quickly. They displayed testimonials. They implied a connection to celebrities, fame, and a life of wealth, freedom and leisure. They distanced themselves from risk, and from legal liability for injuries. Amunez and Tarawa’s text had elements of implying rapid wealth with no risk, talent, or investment, but with less hyperbole than Amazing BodyArt Supply and Black Henna Kits.

The Black Henna Merchandising Meme Organisms of ‘Little Miss Henna’

A vendor doing business as ‘Little Miss Henna’⁷⁶⁹ provided ‘black henna’ temporary tattoos for large events and areas of tourism such as theme parks from her base in Canada.⁷⁷⁰ ‘Little Miss Henna’ stated that henna was both red and black, that both were 100% natural; she referred to black henna as “saumer.” Her business presented friendly, upbeat merchandising memes to potential customers and to attract employees to their operations. The owner described herself and her business as “The Whimsical World of Little Miss Henna; She's Unique, She's Special, She is an Original, just like you!”⁷⁷¹ Her business grew and staffed and supplied theme parks with ‘natural black henna’ in the USA and Canada in the years around 2001.⁷⁷²

The henna care instructions on the ‘Little Miss Henna’ stated that the paste was to be left to dry on the skin for half an hour and then to be removed. The photographs on the website show black stains on torso skin. The site warned of allergic reaction, “Symptoms of this reaction may include itchy, redness, inflammation, and / or blisters underneath the tattoo.”⁷⁷³ The Little Miss

Henna advertised for artists, particularly high school and college age people to work in the various theme parks through the summer seasons.⁷⁷⁴

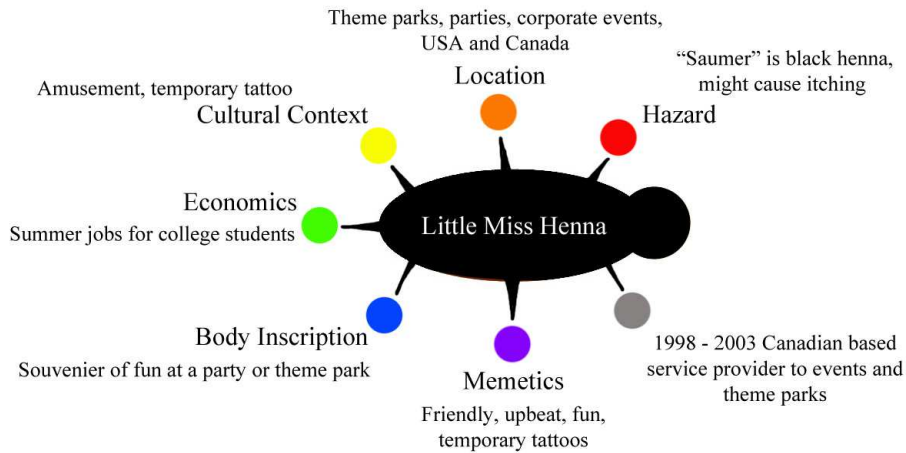


Figure 45: *Black henna merchandising meme organism* of Little Miss Henna

By December 2003, all mention of 'black henna' was removed from the 'Little Miss Henna' website at about the same time that 'black henna' made PPD was outlawed in Canada.⁷⁷⁵ The company remains in business at present, advertising that, "Henna Body Art Ink used on all Little Miss Henna Tattoos contains NO PPD and is FDA approved."⁷⁷⁶

Maia posted in the spring of 2001 on the *hennapage.com* discussion forum about visiting a theme park with a henna booth run by 'Little Miss Henna.' Maia had asked about their decision to keep 'black henna' in the theme parks; the person was told that 'black henna' was used despite injury reports because of consumer demand.⁷⁷⁷

Over-the-Counter Sources of PPD Commonly Used to Make ‘Black Henna’ Temporary Tattoos

Artists did not need to go to online specialists for supplies to create black henna temporary tattoos. Bigen Oriental Black Hair Dye, with 12.3% para-phenylenediamine, was used to create black henna temporary tattoos in areas of tourism in Goa, Mexico, and the USA.^{778, 779} Bigen was used to create the black henna worn by Madonna in “Frozen.”⁷⁸⁰ An artist demonstrated how to mix and apply black henna in a YouTube video, explicitly saying that he used Bigen to make his black temporary tattoo paste.⁷⁸¹ Bigen was available in beauty supply stores, drug stores, grocery stores. At an average retail price of \$5.00 it was a very inexpensive source for artists painting people wishing to create black temporary tattoos. Bigen’s declaration of ingredients is, “Sodium Perborate, Cellulose Gum, P-Phenylenediamine Sulfate, Sodium Sulfate, M-Phenylenediamine Sulfate, M-Aminophenol, Sodium Carbonate, Disodium Lauryl Sulfosuccinate, Magnesium Stearate, O-Aminophenol, P-Aminophenol, Fragrance (Parfum).”⁷⁸²

An online source for Pakistani groceries and sundries carries Bigen, with the warning, “Caution: the ingredients of this product may have Allergic reactions on the skin,”⁷⁸³ evidencing that customers buy this product for body art, and that it causes injuries.

A product identical to Bigen was sold on a website advertising henna supplies, captured by the *Internet Archive Wayback Machine* from March 6, 2001 to May 20, 2012. In the early years of this page, it was implied that it could be used to create black temporary tattoos, though it was not explicitly recommended for use on skin. Their product contained, “Ingredients: Sodium Perborate * Cellulose Gum * P-Phenylenediamine Sulfate * M-Phenylenediamine Sulfate *

Sodium Sulfate * M-Aminophenol * Sodium Carbonate * Disodium Lauryl Sulfosuccinate * Magnesium Stearate * Fragrance * O-Aminophenol * P-Aminophenol.”⁷⁸⁴

Peacock Hair Dye, often referred to as Piku or Kiku, is most commonly used in Africa, the Arabian Peninsula, the Levant and the Mediterranean areas of tourism and is advertised as “Ideal for the skin decoration in Arabian countries, dark and lasting for long time.”⁷⁸⁵ The advertisement continues, “Peacock Hairdye has ideal effect for hair as well as skin in middle east and Africa. We have top reputation in the field.”⁷⁸⁶

Both Bigen and Peacock hair dye are widely available and are sold without regulations. With the scant information online on how to mix and apply high PPD content hair dye into temporary tattoo paste, it seems probable that the very simple techniques used mimetically replicated horizontally, person to person on the beach, or in shops, a friend showing a friend, or an employer showing an employee. The horizontal transmission of *black henna practice meme organisms* between friends may account for the willingness of artists to dismiss accusations of harm; they would have to deny a social relationship bond to admit harmfulness. Laila, who had painted her skin with Peacock queried to *Yahoo Answers*, “Reg'd peacock hair dye on skin ?Laila ليلي ♥Ya Allah♥ My skin is burning ..what to do !?!?”⁷⁸⁷

Production of ‘Black Henna’ Products in India and Pakistan Marketed in the West

Karachi was producing at least as much ‘black henna’ as any other source by 2008, and the physicians there were as concerned as any others.⁷⁸⁸ Dr. Sikandar A. Mahar stated that the Institute of Skin Diseases, Karachi, received up to 50 patients a day complaining of injuries from

‘black mehndi,’ with patients presenting allergic symptoms such as rashes, swelling, blisters and itchiness from thirty to forty brands of PPD adulterated henna available in the marketplace. Many of these brands are distributed internationally through *Amazon.com* and *Ebay.com*. Their advertising memes are directed towards diaspora and diaspora-curious clients rather than the tourism market.⁷⁸⁹ These products are distributed globally to ethnic markets; Newham’s Trading Standards team say they are redoubling their efforts in Green Street, Upton Park, UK, following the seizure of 6,700 items from one shop alone in July.⁷⁹⁰ The reports of white girls injured by ‘black henna’ injuries from products purchased in UK ethnic markets contained *black henna warning meme organisms* collaborating with politically conservative and anti-migrant memes.⁷⁹¹

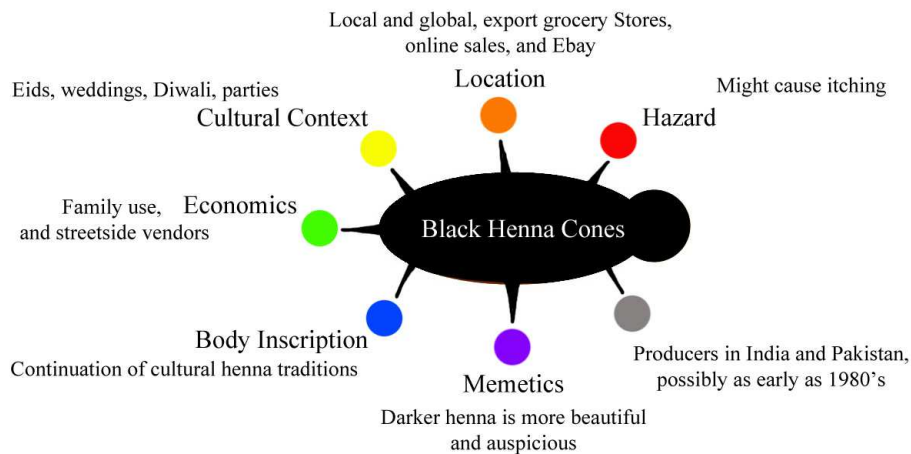


Figure 46: The meme organisms of pre-made ‘black henna’ cones sold online and in markets to Muslim and Hindu communities in diaspora.

South Asian grocers and import markets in USA, Canada, and UK also carry ‘black henna’ and black henna body art pastes to serve the communities where henna is used in cultural

celebrations in diaspora.⁷⁹² When injuries have been reported, police have raided shops, often seizing large quantities of ‘black henna.’⁷⁹³

CHAPTER IV. MATERIALS PART 3. ONLINE DISCUSSION MEMES

The Evolution of Black Henna Meme Organisms on *hennapage.com* and the Henna Page Discussion Forum

The Henna Page, *hennapage.com*, was the earliest and most active online source for henna discussion.^c It has been the top answer for henna queries on search engines for as long as there have been search engines on the internet so it is able to propagate henna meme organisms more than other online sources. The site was first a personal webpage, opened April 11, 1997,⁷⁹⁴ later expanding to a larger site with a registered domain. About twenty percent of the discussions up to January of 1998⁷⁹⁵ were questions about techniques, filling the gap between horizontal memetic replication between learning henna body art in cultural in place, and vertical replication of trying to figure out how to do henna body art without being able to observe another person creating henna body art. The other eighty percent of the discussions were of people trying to find an artist, get lessons, or to buy or sell henna materials. Selling, purchasing, and profit-making activities of henna were the most frequent forum topics⁷⁹⁶ until commercial posts were discouraged or removed, being regarded as spam by management. The meme ‘henna is an opportunity for profit’ replicated rapidly online in the English language.

^c Between 2006 and the writing of this paper in 2013, this English language website index page had two and a quarter million visitors according to the stats stored in *HennaPage.com* server logs). The Henna Page Discussion Forum, with discussions in English, accumulated over fifty thousand single-page html posts on the topic of henna in the first five years of activity. The website continues to be active, so was and still remains a large repository and dispersal point of henna meme organisms online, and through the web. The Forum had a seminal effect on black henna meme organism evolution and dissemination in the English language. Researching the early years of The Henna Page Discussion Forum is difficult because of posts lost to database disruptions and spam. The quotes presented here are representative, but are a fraction of the volume of original discussion.

The first request to purchase 'black henna' came ten days after the opening, the seventeenth comment posted to the forum.⁷⁹⁷ Henna meme organisms and black henna meme organisms emerged into English language discussions on The Henna Page Discussion Forum, accumulated attributes, cooperated, competed, and evolved rapidly in the social network environment of the group. The group was largely composed of online middle-class females from the US, Canada, Australia, and the UK, between the ages of twenty and fifty, with the median age of thirty-two, by my estimate. These henna meme organisms replicated and evolved as the forum group co-evolved, participating socially in the memetic evolution. The members of the network environment acknowledged and defended the evolved natural henna meme organisms as truth against black henna meme organisms that had evolved in other network environments. As theorized by Coscia, "The defining characteristic of social media is the many-to-many communication: the users are at the same time producers and consumers of information and knowledge."⁷⁹⁸

The Henna Page Discussion Forum was in English, the website was hosted in St. Catherine's University in Oxford; most of the people posting had no linear memetic replication experience with henna. The praxis and memetic replication through the forum was entirely horizontal, and global. Knowledge constructed through this horizontal, digital pathway was fundamentally different from "learning at our grandmother's feet." Posts from people who had grown up within henna cultures outside the *hennapage.com* network environment expressed discomfort with *henna* and *black henna meme organisms* were evolving differently from the meme organisms that had evolved within their social networks. People who had grown up in henna cultures often claimed cultural authenticity as their proof of correctness.⁷⁹⁹

‘Black henna’ was a subject of vigorous and contentious discussion on the Henna Page Discussion Forum from the beginning in 1997, from people who wanted to purchase black henna, people who wanted to sell black henna, and people who had experienced black henna in areas of tourism. Various members of group contributed that something that being marketed as henna stained skin black quickly, that it caused injuries,⁸⁰⁰ that it was used in North⁸⁰¹ and East Africa,⁸⁰² and was offered for sale,⁸⁰³ and that there was considerable confusion about what was added to the henna to make it black.⁸⁰⁴ People suggested that black chemical hair dye would do the job.⁸⁰⁵

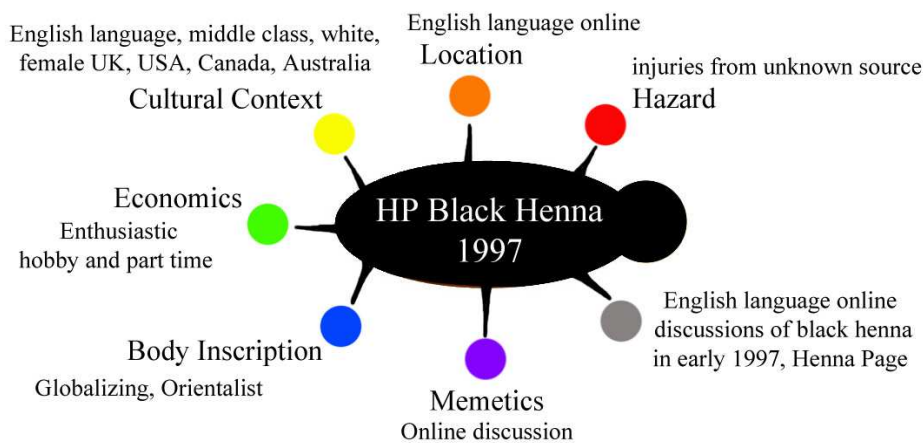


Figure 47: Diagram of *black henna meme organism* on The Henna Page Discussion Forum in 1997

***Black Henna Meme Organism* Evolution and Competition in the English Language Henna Page Discussion Forum Social Network Environment in 1998 and 1999**

In early February 1998, just prior to the release of Madonna’s video “Frozen,” showing her hands adorned with ‘black henna,’ several people posting to The Henna Page Discussion Forum

came to the conclusion that the additive used to create ‘black henna’ and responsible for causing injuries was PPD.⁸⁰⁶ This information was ‘crowd sourced’ but ultimately correct. The *black henna warning meme* evolved within a network environment; group ties added social force to the *black henna warning and injury meme organisms*. From this point, discussions of black henna on the Henna Page Discussion Forum increasingly replicated warning meme organisms, often with urgency and vigor. People who carried competing black henna meme organisms of merchandising, defending, using and seeking black henna were increasingly unwelcome, and gradually became absent from the discussions.

Following the global memetic spread of Madonna’s ‘black henna’ from “Frozen,” people came to the Henna Page Discussion Forum and asked where they could purchase⁸⁰⁷ or how they could create black henna,⁸⁰⁸ wanting to duplicate what they’d seen on celebrities or in areas of tourism.⁸⁰⁹ The typical query was, “I’m looking for something that is used as henna, but it has got to be black!”⁸¹⁰

A respondent recommended an online black henna vendor that did not have an online ingredient declaration,⁸¹¹ and appeared to not contain PPD, “Try Amunez. It is not henna, and it doesn’t have the nasty chemicals that black henna has. I tried it a few days ago, and it turned out PURE BLACK. It lasts as long as henna.”⁸¹²

The memetic cluster of the *black henna warning meme organism* evolved in the Henna Page Discussion Forum into a dominant meme organism in further discussion of ‘black henna’ among English language western henna artists communicating online, if for no other reason than *hennapage.com* was a heavily accessed website. “What they are using is bad very bad for the skin it is a man made dye. I know this because I do henna my self at Venice Beach they know

most people will never be back to Venice.”⁸¹³ The *black henna warning meme organism* collaborated with memes that ‘black henna’ contained PPD, PPD caused injuries, potential clients should be warned, and that people who paint skin with PPD knowingly should be informed of the injuries they were causing.

This separated people in the network environment of the *hennapage.com* discussion group from those who replicated the competing meme organisms that ‘black henna’ is safe, desirable, profitable, the injuries are negligible, and that the client has the right to choose ‘black henna’ regardless of risk.

When people posted questions on the forum about how Madonna’s ‘black henna’ was created, a woman claimed to have inside information that Bigen black hair dye was used at Ziba salon.⁸¹⁴ Bigen would stain skin black because it had a much higher para-phenylenediamine content, 12.3%, than was allowed by the FDA or the EU,⁸¹⁵ and was only slightly diluted to a paste rather than diluted as for a hair rinse. High black dye powders were available from other sources as well.⁸¹⁶

By the end of April in 1998, Jeremy Rowntree, the owner of The Henna Page Discussion Forum had accumulated enough anecdotal stories and information about para-phenylenediamine mixed into henna to begin a draft of a ‘black henna warnings page.’⁸¹⁷ This ‘black henna’ warning page was expanded in 2000 and 2003.⁸¹⁸

The position of this forum as the first and most widely sourced website for henna information disseminated the meme of ‘black henna contains PPD, and the PPD causes injuries.’ Medical papers had linked PPD skin painting to injuries before this, but their audience was small and specialized, their *black henna warning meme* could only replicate to the boundaries of the

medical community. Any person who could reach the Internet could find the Henna Page Discussion Forum and could find the warnings about 'black henna.'⁸¹⁹ The *hennapage.com black henna warning memes* replicated to the boundaries of all people who could access the Internet. Because the 'black henna' warning page was static html, the warning memes replicated identically with every access.

In 1998, vendors posted on the Henna Page Discussion Forum advertising 'black henna' for sale and artists posted about their favorite black henna vendors. Interested buyers responded. "Yes, i do have experience with black henna, and succesfully, as well. Henna is black on the skin when manufactured here, in the USA, by a comapny called Elizabeth's Rose, out of California. About \$40 USdollars for a kit. I have been using it for about 8 months, profeesionally in Chicago, and I will use no other!"⁸²⁰

Tarawa.com, the French vendor selling a black henna tattoo product containing para-phenylenediamine posted, defended the safety of his product.⁸²¹ A hopeful client responded, "We are interested to know more about black henna and if it's possible to order from you. We have a salon in Toronto,Canada and we have lot of customers asking us about black henna. Any help would be greatly appreciated"⁸²²

People who had been injured by 'black henna' kits or in tourist venues found The Henna Page Discussion Forum and asked for advice.⁸²³ When people posted on the forum asking for advice about the injuries from 'black henna' received on their vacations, the forum regulars expressed commiseration for the people's injuries, and responded that their problem was not unique. *The Henna Page Discussion Forum*, drawing English-speaking visitors from a large area was able to function as a place where people could compare their experiences with black henna, and see

consistent pattern of injury. “MY CASE IS VERY CLASSIC SO I HAVE BEEN TOLD BY SOOOO MANY IN THE PAST TWO DAYS!!!!”⁸²⁴

The forum had a regular core of people who read and responded to posts, interacting with each other over months and years. The groups’ memes evolved to agree with each other as both producers and consumers of the information; their meme organisms were more homogeneous than other message boards where people participated for only a short while, such as *Bali Travel Forum*⁸²⁵ or the *Trip Advisor* forum.⁸²⁶ The Henna Page Discussion Forum’s meme organisms were different from those in online network environments based in Somalia,⁸²⁷ India,⁸²⁸ and Pakistan.⁸²⁹

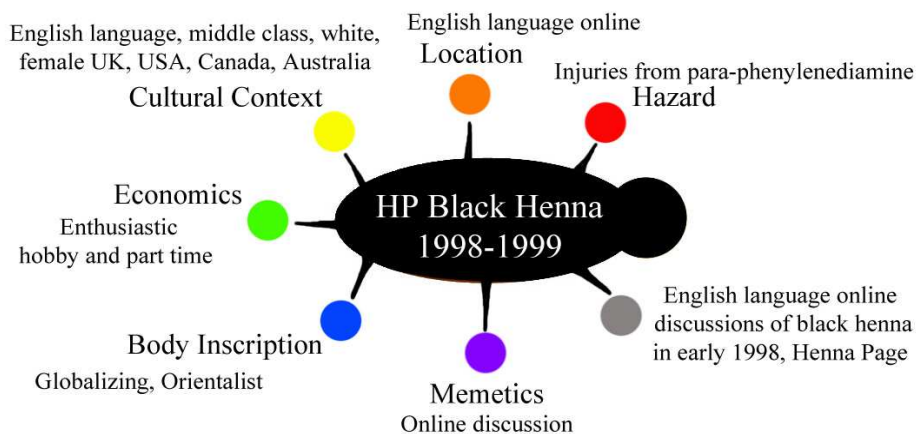


Figure 48: Diagram of the *black henna meme organism* on The Henna Page Discussion Forum in 1998-1999

Without the Henna Page Discussion Forum providing dozens of self-reported descriptions of injuries and the stable pages created by the RuBoard cascading forum script, physicians might have come more slowly to the conclusion that the chemical in question was PPD and what their patients presented was a Type IV hypersensitivity reaction, related to, but very different in scale

from allergic reactions to hair dye. The injury descriptions narrated by ‘black henna’ customers were absolutely consistent.⁸³⁰ When presented with the newly emerging epidemic of PPD sensitization, physicians could find corroboration for their patients’ symptoms online.⁸³¹

The commiseration and empathy narratives⁸³² extended to people who had been injured gradually evolved into scorn for the artists who had painted customers with ‘black henna’ and the vendors who supplied them.⁸³³ Artists working in natural henna also expressed that they considered black henna a threat to their access to clients and income.⁸³⁴

While the henna artists in the English speaking the Henna Page Discussion Forum network environment framed their arguments against ‘black henna’ within a narrative of the immorality of causing harm to another person, other another person framed the injuries within a narrative of punishment for immoral globalizing cultural consumption and hegemony.⁸³⁵

Henna Meme Organisms and Black Henna Warning Meme Organisms in the Henna Page Discussion Forum Network Environment in 2000

Thomas Cowell was injured by ‘black henna’ in September of 1999. He photographed the injury, and sent it to Jeremy Rowntree, owner of *hennapage.com* asking what redress was possible.⁸³⁶

Dr. Rowntree used this photograph to illustrate an article on the potential injuries of ‘black henna,’ and uploaded the article and image to *hennapage.com* by April of 2000.⁸³⁷ Following the upload of stationary ‘black henna’ warning page, all people coming to the discussion forum with questions about ‘black henna’ were referred to that URL, so the *black henna warning meme organisms* replicated consistently from a static page. In addition, the photograph and

warnings were copied by many henna artists on their websites, so these *black henna warning meme organisms* replicated, often intact, across the Internet. Each time the *hennapage.com* ‘black henna’ warning page, or other websites’ copies of the information were accessed, as well as subsequent 2003 expansion and update of the warning page was accessed,⁸³⁸ the *black henna warning meme organisms* had an opportunity to replicate. Between May of 2010 and October of 2013, the ‘Henna Page Black Henna Warnings’ page was accessed over two hundred thousand times.⁸³⁹ The spawn of these black henna warning meme organisms have replicated and evolved into virtually every English language henna website on the Internet.

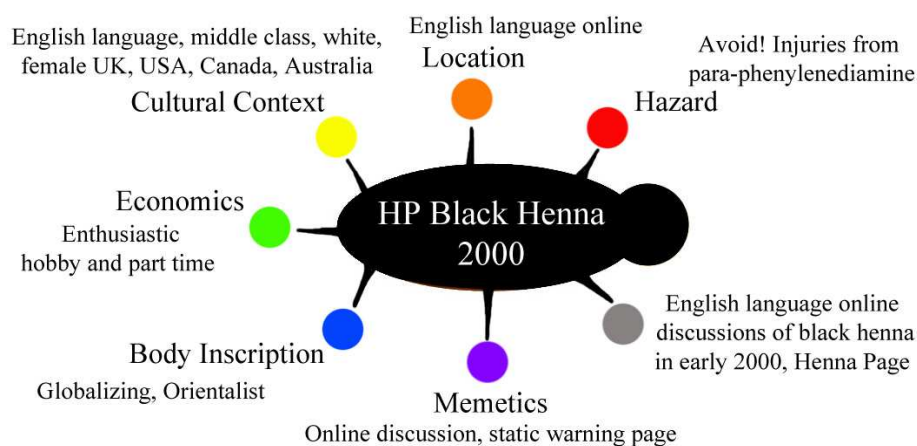


Figure 49: Stabilized black henna warning meme organism in the network environment of *The Henna Page Discussion Forum* in 2000

The boundaries of competing meme organisms from different network environments may have shaped the flow and borders of ‘black henna’ memetics. People in different social networks had different constructions of working with ‘black henna.’ ‘Black henna’ artists defended their income⁸⁴⁰ and claimed that their henna was safe and natural⁸⁴¹

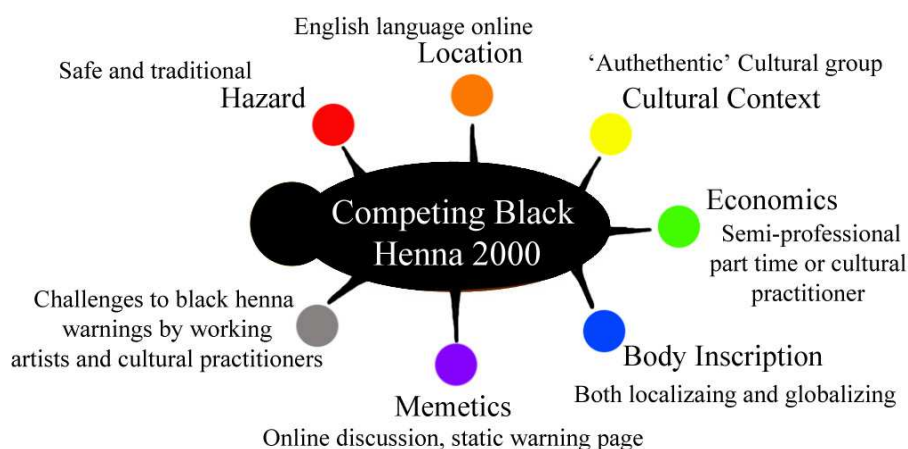


Figure 50: Competing black henna meme organism in the network environment of The Henna Page Discussion Forum in 2000

A third *black henna meme organism* evolved from the Modern Primitive meme that people have the moral right to choose their own body adornment, whether or not it is potentially harmful. Curiously, Body Modification Ezine (bme.com) an online website and community begun in 1994 during the expansion of the Modern Primitive meme organisms, positioned with a very libertarian stance on body modification, not judging artists who do scarification, branding, or extreme modifications which might result in unintended negative consequences, was not similarly neutral about ‘black henna,’ referring to henna artists who use PPD as ‘unscrupulous.’⁸⁴²

CHAPTER IV. MATERIALS PART4. MEMES IN TOURISM

The Qualitative History of *Black Henna Meme Organisms* in the Network Environments of Travel Forums

The Bali Travel Forum was constructed in the summer of 1997 by Bali Hotel Bargain Finder, a division of Private Villas LTD, and has been managed and maintained continuously until present. The entire history of the Bali Travel Forum is preserved online. It collected comments from tourists traveling to and from Bali. The forum ran on a RuBoard script, as did the early Henna Page Discussion Forum; the comments from both are preserved in static individual html pages. The RuBoard script and complete Bali Travel Forum archive facilitate tracking the epidemiology of *black henna meme organisms* in this network environment.

The participants in the Bali Travel Forum did not remain on the forum for months and years, as was the case on the Henna Page Discussion Forum. People joined a few weeks before their vacation to ask questions, and exited a few weeks after they had returned from vacation. Because of this discontinuity *black henna meme organisms* had less of an opportunity to evolve and become fixed on the Bali Travel Forum as they did on the Henna Page Discussion Forum. Connection of injury to PPD was more gradual, and less evenly replicated. The *black henna warning meme organisms* entered the Bali Travel Forum through newspapers, television, tourist brochure warnings, and The Henna Page.

There were over four hundred comments about ‘black henna’ on the Bali Travel Forum. Most comments regarding ‘black henna’ either inquired about where to purchase ‘black henna’ or recounted an experience with ‘black henna.’ There were over fifteen posts with *black henna*

meme organism replications from The Henna Page black henna warnings page into the Bali tourists' conversations through quotes and live links.⁸⁴³ "On your vacation you were hennaed with "Black Henna" that contains a chemical called PPD. It causes exactly the problem you are describing. Go to a doctor now. Read this link. Print it out and take it to your doctor."⁸⁴⁴

There was no comparable henna meme dispersion and interchange forum for the Philippines, Thailand, or other Southeast Asian vacation area. There were occasional comments about black henna in these areas on Trip Advisor Forum, blogs and newspaper articles. Some blogs contained 'black henna' memes and photographs of injuries,⁸⁴⁵ but they were not interactive meme transmitters; a blog was usually a narrative the person's experience, with no comparison and discussion of other people's opinions and experiences.

Most of the discussion on the Bali Travel Forum was concerned with vacation preparations, where to go, and what to purchase. Some posts contained personal narrations of hedonism, temporary rebellion against social norms, carnivalization of the body, and transgressive behavior in the third space of tourism. There were occasional warnings from people who had had a mishap on the island and wanted to warn others.

A comment on the Bali Travel Forum indicated that there were black para-phenylenediamine temporary tattoos offered in 1996.⁸⁴⁶ There were no posts about purchasing a black henna temporary tattoo in Bali during 1997, though one person did ask for recommendations of a tattoo artist when visiting Bali.⁸⁴⁷ Posts on The Henna Page Discussion Forum indicated that black henna temporary tattoos were entering the market in the USA in 1997, were much in demand, were causing injuries, and had been present in some areas of tourism in north and east Africa prior to that date. From these, we may propose that 'black henna' entered the third space of

tourism at some point in the early-to-middle 1990s, following the popularization of PPD skin painting in East Africa, the Arabian Peninsula and South Asia, following the Modern Primitive globalizing consumption of body art.

Amunez developed their 'black henna' temporary tattoo in 1997, which they later marketed heavily in Bali and other tourist areas in the Australasian and Southeast Asian region. Amunez's vending memes may have had an effect of people's acceptance of black henna as a desirable tourist souvenir. They associated it with celebrity, fun, and fooling people with a temporary tattoo.

In May of 1998, an article noted, "black henna temporary tattoos are all the rage this year;" a temporary tattoo was a way to subvert the normalized, civilized, disciplined, and respectable body in the Balinese third space of tourism.⁸⁴⁸

'Black Henna' Injuries among Bali Tourists: the Evolution of *Black Henna Diagnosis, Cause, and Treatment Meme Organisms*

By May of 1998, people who had visited Bali and gotten the "all the rage" 'black henna' temporary tattoos posted injury reports on the Bali Travel Forum.⁸⁴⁹ People reported injuries on the forum, "Has anyone else experienced the wrath of the tattoo."⁸⁵⁰ People were concerned about scarring and people who had been injured felt the urge to warn others.⁸⁵¹ Others posted, commenting that they purchased black henna temporary tattoos and did not have allergic reactions.⁸⁵² By October of 1998, there were more descriptions allergic reactions from black temporary tattoos in Bali, enough to draw attention from the news media. Physicians did not

know what was causing the problem, guessing that it might be from increased sunshine from the black color; neither patients nor physicians knew why some people had blistering reactions and others didn't. *Black henna warning meme organisms* with partial information and misinformation replicated.⁸⁵³

Confrontations between injured consumers and artists were inevitable. Amunez, a company that was not only producing black henna, but franchising it widely to local artists anticipated injuries and had 'care packages' of ointment and instructions ready to hand over to people with injuries. A person whose allergic reaction began while still in the area confronted the artist, an employee of Amunez, "They were very afraid i could ruin their business so did not continued to argue. My advice: DON'T DO IT!!!!"⁸⁵⁴

Black henna meme organisms evolved rapidly in absence of information in different network environments: the environment of the artists who needed the income, the environment of the company producing the product, the environment of physicians bewildered by the presentation of injuries,⁸⁵⁵ the environment of tourists eager to consume a novel souvenir, and the environment of tourists who returned home with injuries. Visitors narrated anger and confusion in the early epidemic of allergic reactions from an unexpected and unknown source. "DON'T GET A HENNA TATTOO WHILE IN BALI, I DID AND IT GAVE ME THIRD DEGREE BURNS, A LONG HOSPITAL STAY & UGLY SCARS FOR LIFE."⁸⁵⁶

In the early injury reports, memes of misinformation about the cause of the injuries evolved reflecting cultural assumptions about harmfulness.⁸⁵⁷ Before the recognition of PPD as the sensitizing agent, the most frequently replicated meme organism of harmfulness was that petrol (gasoline) was being added to henna. Petrol certainly has been used with henna to make a darker

stain, but petrol does not cause the injuries described. On the Bali Travel Forum, injuries were attributed to petrol mixed with the henna more than sixteen times between 1998 and 2013. Injury was also attributed to boot polish being used as 'black henna.'⁸⁵⁸ That is plausible because some brands of black shoe polish contain phenylenediamines, but generally not in high enough volume to stain skin for two weeks.⁸⁵⁹ Powdered PPD, which may be a black or white powder, was added to increase the dye content.⁸⁶⁰ A solvent such as petrol could have been used to thin boot polish to a workable texture.⁸⁶¹ There are photographs of artists in Bali working from a small tin of black pigment, about the size of a shoe polish tin.⁸⁶² The artists mixed bottles bottles of finely powdered PPD sold under the Peacock⁸⁶³ and Bigen⁸⁶⁴ hair dye brands in these tins. If artists were using PPD to create 'black henna,' they would have mixed small amounts at a time, because the oxidative dye's ability to stain decreases after an hour. Other additives proposed for the reactions were acid⁸⁶⁵ or battery acid;⁸⁶⁶ understood to cause skin injuries, but unlikely to be of any use in henna or 'black henna.' One person, hoping to take some home and paint his friends, asked an artist what was in the black henna. The artist responded "Chinese black hair dye," and that it was available in department stores.⁸⁶⁷ Chemical testing in 2013 confirmed that high concentrations of PPD were the cause of the injuries in Bali.⁸⁶⁸

In the spring of 1999, there had been enough injury reports from black henna applied to tourists in Bali for Dr. Marshman to present a paper on the phenomenon at the annual scientific meeting of the Australasian College of Dermatologists in Perth, and diagnose the problem as a chemical in hair dye; "Tourists are confronted with people selling these tattoos as soon as you get off the plane, and they are also sold at many of the markets in Bali."⁸⁶⁹ Black temporary tattoos were at hotels, on the beach, in expensive shopping areas,⁸⁷⁰ and expanding across the region. As people returned year after year to their favorite vacation spots, reapplication of 'black henna' increased

the likelihood of sensitization.⁸⁷¹ When there was no allergic reaction, people loved their ‘black henna’ and admired ‘the creativity of the Indonesians.’⁸⁷²

The injury descriptions were very consistent across the Australasian and Southeast Asian region; the physician at the Australian Embassy in Jakarta in 1999 was still uncertain of the chemical causing the reaction after treating many children with injuries.⁸⁷³ By 2001, dermatological medical journal articles regularly attributed the injuries to PPD. Dr. Tomlins said similar cases had occurred on the nearby Indonesian island of Lombok, also popular with Australian tourists. By 2000, there were ‘black henna’ reports from most areas of tourism in Australasia and Southeast Asia. The *black henna merchandising meme organisms* seem to have replicated rapidly through the third space of tourism as a way to earn money easily in the informal economy.⁸⁷⁴ If artists didn’t know how to make a ‘black henna’ paste from black hair dye, Amunez would provide them with a more tractable product, complete with a brochure of popularity and awards won.

‘Black henna’ customers hoped they had found a perfect way of consuming Modern Primitive culture without compromising their social status.⁸⁷⁵ Some people had allergic reactions. Others did not.⁸⁷⁶ The reasons proposed for this variation evolved from western cultural memes about people in tropical, less economically developed countries, “the artists were dodgy-looking,” they had low standards,⁸⁷⁷ the black color absorbed more sun, therefore the skin was burned,⁸⁷⁸ skin was pale,⁸⁷⁹ the skin was dark,⁸⁸⁰ the application stick scratched the skin,⁸⁸¹ the skin had been shaved with a dry razor,⁸⁸² the ingredients were cheap,⁸⁸³ the change in air pressure on the flight home,⁸⁸⁴ and seven attributions of ‘something added to the paste.’ The specific attribution of reactions to PPD was infrequent on the Bali Travel Forum until 2003, and not commonly noted until 2006. When injuries were attributed to PPD, the source was often cited or linked: a

physician, a newspaper, *hennapage.com*, or another website with ‘black henna’ warnings. People replicated *black henna warning meme organisms* from sources regarded as having some authority, bolstering the individual’s warning claim.

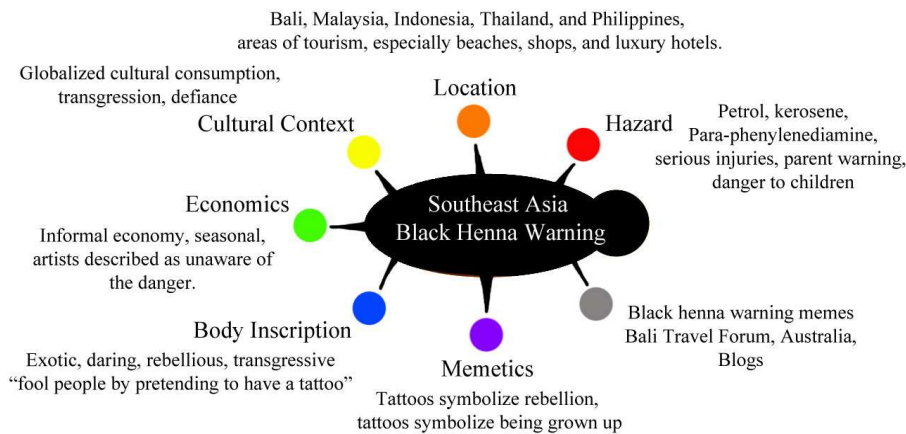


Figure 51: The *black henna warning meme organism* among participants on Southeast Asian tourism discussion groups.

The fact that some people were injured by ‘black henna’ while others were not was as perplexing as the delay between application and reaction.⁸⁸⁵ Without clear recognition of PPD as the problem by physicians⁸⁸⁶ and general public,⁸⁸⁷ many palliatives were recommended, replicating self-care meme organisms for minor injuries. Thirty-one people on the Bali Travel Forum recommended cream for the injury: prescription, over-the-counter, cortisone,⁸⁸⁸ steroid, antiseptic, antibiotic, aloe vera, phenergam,⁸⁸⁹ or generally soothing cream. Others heaped ice on the injury,⁸⁹⁰ stayed out of the sun and water, or were prescribed intravenous vitamin C and pawpaw cream,⁸⁹¹ as well as betadine.⁸⁹²

The Black Henna Libertarian Meme Organism of “It Is My Choice.”

Visitors' *black henna meme organisms* evolved into the memeplex of transgression in the third space of tourism; people relished the idea of returning home with a tattoo that they would never dare get permanently.⁸⁹³ The context of 'black henna' descriptions in the Bali tourist experience show how popular temporary tattoos had become as souvenirs and how many artists in the informal business sector pursued potential customers. In the discussions on the Bali Travel Forum, artists were rarely vilified as they were in news reports from the UK, and parents were rarely shamed for their children's' injuries. Potential consumers were warned and urged to be cautious, the meme organism replicated that getting black henna was a matter of choice. There was no call to outlaw 'black henna' from people on the Bali Travel Forum. People were told to avoid it if they were concerned, and to get a patch test if they wanted reassurance.

Unfortunately, the patch test gave a false sense of security because PPD causes a delayed hypersensitivity reaction. The patch tests may have been responsible for far more injuries than they prevented. The *black henna libertarian meme organism* of 'it is my choice' replicated in the Bali Travel Forum appearing over a dozen times in comments. This libertarian meme organism was only rarely expressed in newspapers in the USA, UK, or on the Henna Page Forum, and never in medical journal articles.

Some people felt that the Australian government should warn travelers about 'black henna' in Bali.⁸⁹⁴ Many people who posted warnings on the Bali Travel Forum ended their warning comments with the statement, "It is your choice," and many people who planned to get, or had gotten 'black henna' said, "It is my choice." This statement may have been a verbal softening of the warning to avoid appearing rude or 'bossy,' or to assert freedom and rebelliousness in a general round of warning statements. This statement expressed a libertarian meme that a person

has the right to take risks, and the risks are nobody else's business.⁸⁹⁵ Vivi argued, "Is tattoo an art for you? However we approach tattooing is our own prerogative. God gave us free will to decide, and for me it is an art but everything overdone is no longer beautiful. Wow! But who are we to judge right? As long as they are comfortable with their skin, let them be. Peace everyone! And let's not complicate life by arguing, life is supposed to be enjoyed! Cheers!"⁸⁹⁶

Memes of free choice and hedonism are frequently replicated in the Australasian and Southeast Asian third spaces of tourism. Henna artists were ready to accommodate them.⁸⁹⁷ Rachel Brown reported the ambiance around The Hard Rock Hotel Bali for two editions of the Sun Herald in Australia, "Step out of the hotel and you'll be pounced upon by street sellers with offers of watches, hats, hair plaiting, henna tattoos, massages, manicures, marijuana, hard drugs and any variation on sexual relations you can possibly imagine."⁸⁹⁸ Her description of henna and hedonism on the beaches continued, "Arrive after midnight and you'll walk into a seething mass of sweaty bodies - boys in boardies with T-shirts off and young girls with plaited hair, henna tattoos and tight singlets dancing to The Offspring."⁸⁹⁹

People posted on the Bali Tourist Forum from 1998 through 2013, inquiring about where to get temporary tattoos, "Hi was just wondering if anyone can tell me about getting temporary tattoos in Bali and where abouts u get them done??? Also if anyone would recommend them getting it done.. Thanx."⁹⁰⁰ "One of my friends came back from Bali a while ago with a pretty crazy semi permanent tattoo. Are you still able to get them and if so where? Ohh also how much?"⁹⁰¹

In 1998, when people inquired about black henna, people reported that they had purchased such, where they had gotten them, and how much they had cost. The *black henna vacation souvenir meme organisms* continued to replicate through 2014, despite many reports of injuries, several

newspaper articles in Australia warning about injuries, tourist brochures and signs warning of injuries.⁹⁰²

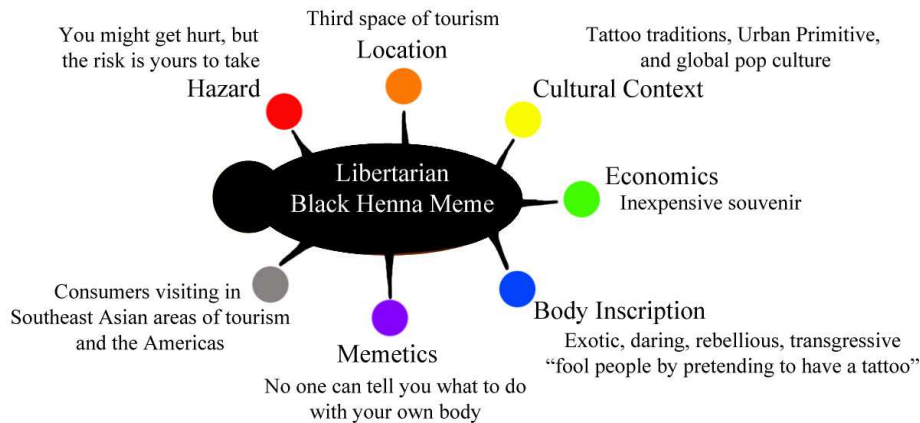


Figure 52: *Black henna libertarian meme organism* in Southeast Asia and Australasia

The desire for 'black henna' competed successfully *black henna warning meme organisms*, possibly with the collaboration of a *black henna libertarian meme organism*. People proudly blogged about transgressing sobriety and their industrialized bodies when on vacation, showing off photographs of their 'black henna,' "This is me in Bali last spring, having dinner on the beach near the airport, after having got a henna tattoo of a barong on my left bicep earlier that day. And yes, I had already had several "fruit" drinks."⁹⁰³ It was not unusual for people to post on the Bali Travel Forum insisting that it was a matter of personal choice to get 'black henna,'⁹⁰⁴ even when there was a known risk.⁹⁰⁵ Jarvis got his 'black henna' before going bungee jumping on a day of enjoying risks in the third space of tourism, "But of course, REAL MAN have tattoos. So I got a temp tattoo. Cool shit... except that I only found out that it was actually not

henna but chemicals. Hey, its a once a blue moon thing so a bit poison is OK. after all, I'm living on the edge babe! ^^”⁹⁰⁶

The ‘Black Henna’ Artists’ Memes

It is rare to find a person working in tourism-based ‘black henna’ talk about their work online, though there are many videos of artists working in black henna presently on *YouTube.com*.

When a ‘black henna’ artist discusses their work in English online, the person usually defends their preference within cultural practice. “Black colored henna has been used by the Sudanese for generations and nothing bad has ever happened to their skin!!!! I have applied it on myself numerous times – no scarring etc. It is the ingredients in Sudanese henna that is high in demand I think and people are jealous.”⁹⁰⁷

In 2013, YouTube hosts dozens of videos practitioners’ artistry in ‘black henna,’ many cataloged under ‘black henna,’⁹⁰⁸ ‘Borocay henna,’⁹⁰⁹ ‘Somali henna,’⁹¹⁰ and ‘Bali henna.’⁹¹¹ When people commented on the video to warn of health risks, the artists often returned to defend his work online. “Hey I used to make temporary tattoo through henna in Bali, but I didnt had any an allergic reaction though. :D I like to make it one again if I catch kuta :P”⁹¹²

Many tourists commented on the affability of the ‘black henna’ artist, and expressed fondness for the time spent with them. “My daughter recently had two tattoos done by Alan. You can find him near the front of fuji shop in Kartika Plaza in Tuban. No reaction, everything fine. If you see him say Hi from Janette and Lauren. Really nice guy.”⁹¹³

There is no indication on the travel forums or in blog posts that artists knew that there was a problem with ‘black henna’ other than an occasional mild rash, “our son also had a reaction, it

was so bad that the scar of the snake is still visible after 18 months. I was told that the temp tattoo writer had used the wrong product. I don't believe he did as he was incredibly shocked when we showed him."⁹¹⁴

Many artists were either convinced of the harmlessness of 'black henna,' or at least convinced their clients that they believed it was harmless. "Had a small butterfly last week, no problems at all. I had questioned the guy about the ink etc is it safe and so on and he assured me there had been no infections."⁹¹⁵ Artists do not appear to have had accurate information on the contents of their 'black henna,'⁹¹⁶ though injuries were frequent and severe.⁹¹⁷ Some artists were aware that there was a problem, but clients demanded 'black henna' and the artists wanted the money.⁹¹⁸

A satisfied customer purchased 'black henna' on vacation to take home to Denmark, hoping to ornament his friends and perhaps begin a new trade. Being previously sensitized through his 'Bali tattoos,' his fingertips blistered when he tried his hand at the art. The paste was submitted for laboratory testing and found to contain 43% para-phenylenediamine, being mixed with an 80% pure sample of para-phenylenediamine.⁹¹⁹

'Black henna' temporary tattoo artists worked in hotels as well as on the beach and in the streets. "With the tattoos, I could get them done in my hotel, Dynasty, and a lot of sellers on the beach were doing them and lots of places on the streets as well."⁹²⁰ People with regular jobs earned extra income doing black henna temporary tattoos. "...Returning to the tattoo artist, formerly known as the waiter from breakfast, a new batch of henna is mixed and the design reapplied at no extra cost, with striking results."⁹²¹

Some vendors were aware that there was a problem, but didn't know what was causing it, they only knew that the tourists were angry and that was bad for business. When an Australian mother

termed Bali conditions in a 'third world country' for her son's 'black henna' injury one person working on the island retorted, "Stupid tattoo, "smart" mother and son ...what a perfect match, right?.and dont blame the 3rd world tattoo! perhaps u should "tattoo" your head with educations then u can teach your "smart brilliant" son to avoid not just 3rd world tattoo but also "high quality" tattoo just like your super country has."⁹²²

When visitors to Morocco were routinely warned to avoid black henna, some artists retaliated when potential clients refused their offerings, "...be careful in your refusal of the henna "ladies" in the square; they might flick their henna on you the moment your turn your back on them. This has happened 3 times to us. I chased one the other day with a big splodge of henna that had been flicked onto my wife's top - I was so annoyed and wanted to smear it down her kaftan! It was annoying and henna stains on white are more or less permanent."⁹²³

A woman who worked as a streetside black henna artist all summer, believing she was working with all-natural henna. She had purchased "Natural Henna Imported from Morocco," and developed a severe, persistent rash on her hands. When she went to a physician for diagnosis and treatment, he found that her 'natural henna' powder was 23.5% PPD.⁹²⁴ Artists stopped doing 'black henna' when they discovered the harm,⁹²⁵ were confronted with pictures of injuries,⁹²⁶ or became too sensitized from exposure to continue.

In February of 2010, *The Bali Today* interviewed a henna artist at Kuta beach. He talked openly about price, method, how long he had worked the beaches, how he approached his work, how many other black henna artists were working the beach. He did not express any sense that there were injuries or hazard to his work as attributed by physicians, news media, the Henna Page Discussion Forum or the Bali Travel Forum. He expressed no greed, no unscrupulousness. He

expressed some regret that so many artists had begun doing 'black henna' that prices had dropped, and he had a smaller share of customers than in years before. He had a demeanor often taught to a person working in the service industry with tourist clientele: patience, diligence, care, and a polite approach to the client.⁹²⁷

The artists working the beaches with 'black henna' were under the usual forces of free market economy. 'Black henna' was a lucrative enterprise, cheap to set up, with minimal inventor, and quick to learn, quickly attracted as many entrepreneurs as the market could absorb.⁹²⁸ Prices dropped as more people wandered the beaches with 'black henna' in hand.⁹²⁹ Tourists became a dwindling resource as more responded "allergic" to artists' offers of their 'black henna.' By 2012, the price of a medium sized back piece in 'black henna' in Bali or Borocay was about the price of one or two breakfast omelets,^{930 931} reduced from Loretta Roome's prices for henna in a New York gallery in 1997, when they were comparable to twenty-five omelets.^{932 933} Even at reduced market value, an artist could equal the minimum Balinese monthly wage by drawing two dozen 'black henna' back pieces on Kuta Beach.⁹³⁴ An artist could equal the Philippine minimum monthly wage with about the same amount of 'black henna' work on Borocay Beach.^{935 936} The earnings were attractive in the local economic scale if an artist could find two or more agreeable customers per day.

For artists competing for work in network environments where the allergic reactions were regarded as a minor nuisance rather than a serious health risk,⁹³⁷ the benefits of income and independence for a young woman made business option of 'black henna' skin painting an easy choice. A 'black henna' business was regarded with pride, a responsible and modern women's economic empowerment project, with benefits shared through the community.⁹³⁸

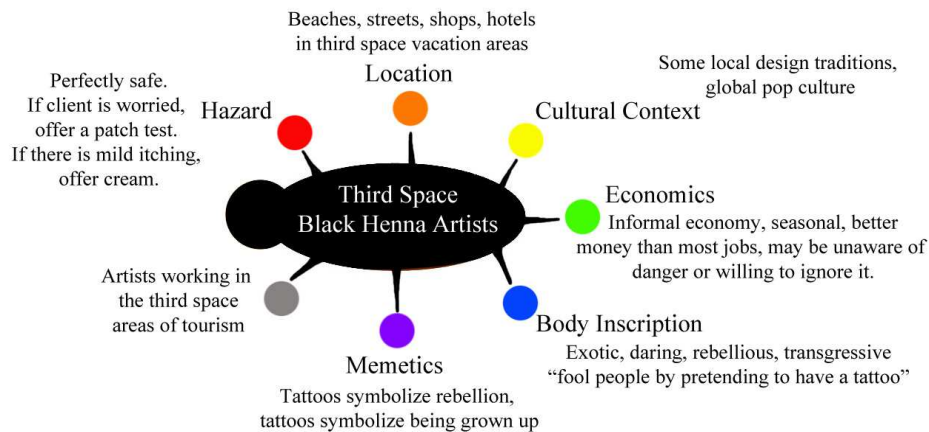


Figure 53: *Black Henna Third Space Artists' Meme Organisms* between 1997 and 2013, as expressed in English online.

Tourists Blogging Transgression and 'Black Henna' in Southeast Asia

The desire for tattoos proliferated through the Modern Primitivism and pop music, as a symbol of resisting the unmarked, uniformed and disciplined body of the corporate worker, the normalized, interchangeable, anonymous and blank skin required by many employers. In some cases, tattoos were linked to criminal activities and powerfulness, the antithesis of powerlessness and submission required by industry. The transgressive activities enjoyed in the third space of tourism quickly embraced 'black henna.' “Whenever we go to the beach, there's no way we would miss out having those artsy drawing on our back. It makes us feel more sexy in our swimsuit. Don't u say?”⁹³⁹

When people are on vacation from a job in the industrialized world, they enjoy behaviors they are not allowed during the work year: sleeping late, napping in the sunshine, wearing outlandish or scant clothing, imprudent eating and drinking.⁹⁴⁰ They can temporarily transgress the

disciplined behaviors of the industrialized worker. If they transgress the body of the industrialized worker, they must return to normalized state as quickly as possible upon returning to the job that pays them well enough to afford the vacation. A large, visible, permanent tattoo is a permanent transgression of the industrialized body.⁹⁴¹ The black henna temporary tattoo was intended to be a temporary transgression, vanishing upon return from the third space of tourism.⁹⁴²

People wrote about their vacations and posted text and images as an open diary for their own and for their friends' amusement.⁹⁴³ Economic activities in the third spaces of tourism often facilitated social inversion; some bloggers seemed to relish their temporary freedom on vacation, and enjoyed displaying their abandon. They acquired and did the forbidden for two weeks, got temporary tattoos, went to parties, slept on the beach,⁹⁴⁴ danced, got drunk, over-ate, relaxed with friends and families.

Bloggers often receive income based on advertising the site carries and their site traffic; they may attempt to engage an audience, so they'll receive more money from advertising placement. When people blog they are aware that they are speaking to a group, some members of the group are known to them and others unknown. They may construct a self-conscious voice speaking one to many. If they wish to present themselves as transgressing norms of sobriety and diligence when on vacation, they may emphasize their hedonistic behaviors, and how much they enjoyed them. If they were injured, they may adopt a tone of responsible warning to other people about black henna injuries received, as if they were somewhat chagrined at the transgression, and that confessing to having gotten black henna and warning other people is a kind of absolution for their confusion and pain, or their grief and guilt if their child was injured.⁹⁴⁵

In Southeast Asian tourism blogs, there was usually little blame placed on the artists, and little call for regulations. The warnings were in form of “beware and be careful.”⁹⁴⁶

If the person was injured, they took pictures of before and after and uploaded them to the blogs,⁹⁴⁷ narrating their delight in the beautiful transgression of the ‘black henna’ tattoo, and their dismay at the painful eruptions and scarring that followed. Their friends and relatives commiserated with their own ‘black henna’ injury narratives.⁹⁴⁸

‘Black henna’ was outlawed in Boracay in 2005, “Skin artists are required by the Municipal Health Office (MHO) to undergo biennial medical examination to give the artists the Health Card to operate and it’s just one of their many requirements in securing their business permit. They are aware that the use of black dye in henna is banned. Ask your artist if they have that health card to know if they are operating legitimately. Enforcement of the ordinances is executed with regular monitoring of the MHO and the Malay Auxiliary Police (MAP).⁹⁴⁹ The informal business of ‘black henna’ on Borocay beaches continued without interruption despite the Municipal Health Office’s announcement.

Inversion, Children, and ‘Black Henna’ in the Third Spaces of Tourism

In the vacation photographs from areas of tourism, it appears that half of the bodies receiving ‘black henna’ are pre-pubescent. More than half of the news stories, forum posts, blog posts, and medical papers on black henna speak of children’s bodies injured by ‘black henna.’ Matulich states that in a review of forty-eight patients presenting with ‘black henna injuries,’ twenty percent were under the age of eighteen.⁹⁵⁰ There are several possibilities for the variances in

these demographics. Parents may take more photographs of young children than they do adolescents or adults. Parents may be differently concerned about injuries to a young child than to an adolescent or to their adult bodies. Newspapers may feel that there is a greater “oh how awful” attention-getting, circulation-boosting effect of showing a child scarred by black henna than an adult; an adult who is injured by para-phenylenediamine skin painting may be relatively unremarkable. Children as young as toddlers received ‘black henna’ on vacation and developed severe reactions, “Eleven children as young as four have been admitted to PMH (Princess Margaret Hospital) emergency department since the beginning of last year with bad reactions to them.”⁹⁵¹

Children may be less aware of the dangers of black henna because they are less likely to research the Internet, read newspapers, and watch television news programs, where the black henna warning memes reside. There are no numbers available of exactly how many children, adolescents, and adults have been painted with para-phenylenediamine, but I believe that it is probable that half of the applications in areas of tourism are to children.⁹⁵²

Adults may claim the libertarian right to choose to take risks with their bodies. To what extent may child claim the libertarian right to risk an injury?⁹⁵³ At what age would a child understand the risks of ‘black henna,’ if presented with the information? If an adult knows that children will be harmed by ‘black henna,’ does that parent have the right or responsibility to warn others,⁹⁵⁴ or should people manage risk assessments for themselves and their children? Dasha contested a news article on Bali ‘black henna,’ “Thumbs up No danger. My boys (now adults and both from Melbourne) and all their mates who have visited Bali over the past 20 years have had literally hundreds of henna tatoos and not one have ever had an allergic reaction. Your nephews will have

more danger stubbing their toes and getting an infection and ending up on antibiotics than this ambulance chasing article suggests! Crikey let the boys have some fun.”⁹⁵⁵

It is very rare that a child narrates online their own reason for wanting a ‘black henna’ temporary tattoo. Parents often say that their child begged for a ‘black henna,’ saw other children having ‘black henna’ and wanted to join them, and that their child loved their temporary tattoo. Children eagerly adapt memes of adulthood, rebellion, and power, as they hope to eventually mature from a state of childhood, compliance, and powerlessness.⁹⁵⁶ A parent observed after she purchased ‘black henna’ for both of her children, “My young boy must have been satisfied when he got henna on his upper arm extending to his back. It was a "mean dragon spitting fireballs". Got to wear sleeveless shirt all the time though to show the P100 work. And before I forget, not to be outdone, my 3-year old girl had her butterfly henna, too.”⁹⁵⁷

If children believe that adult tattoos communicate power and rebelliousness, and a child is offered a chance to have a temporary and presumably harmless symbol of power and rebellion, the child may wheedle attending adult relentlessly until the object of desire is acquired.

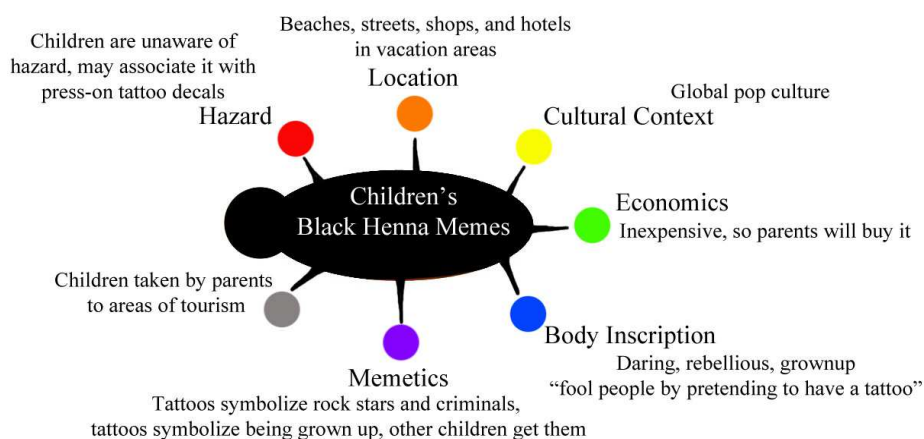


Figure 2: Children’s *black henna meme organisms* as expressed in English online.

Black Henna Meme Organisms in other Travel Advice Forums

The Trip Advisor Forums, *www.tripadvisor.com*, is location specific; people ask for advice on hotels, food, bargains, and activities at their destination. Sometimes they return to the forum from their destination to report on their experience. The discussion is interactive, but discontinuous. Participants from many donor countries focus on a single host area. The memes of people who have gotten their information about black henna online are fairly consistent replications of English language warning memes.

The moderators of the *tripadvisor.com* close threads to further comments after a period of inactivity, but the posts have remained online and searchable since its inception. This limits the potential for meme organisms to evolve in these travel network environments, but it makes it possible for the meme organisms to replicate outward from the forums. The people posting may be from anywhere, as long as they can communicate in a common language online, allowing the possibility gathering, replicating, and comparing meme organisms across great distances.

The earliest 'black henna' thread on *tripadvisor.com* was from a person hoping to acquire a 'black henna' temporary tattoo in Cancun, Mexico, in 2005. The persons commenting in this thread were from a broad geographic range, Calgary Canada, Kansas City, Orlando, Ohio, Michigan, New York, Oregon, Oklahoma, USA, but their warning memes were replicants of information from a single online source, *hennapage.com*.⁹⁵⁸

These responses show that *black henna warning meme organisms* were replicating horizontally online into these participants in the USA and Canada by 2005, and they replicated them onto the Trip Advisor forum. A Trip Advisor member replicated online warning memes about similar incident in a hotel in Cozumel, Mexico.⁹⁵⁹ A post by a Canadian in 2006 from Playa Naco, the

Dominica Republic carried similar memes, linked back to and replicated *hennapage.com* warning memes.⁹⁶⁰ This person mentioned the ‘blanket of protection’ expected by Canadians, said that it was ‘missing in some other countries.’ She said that she would request that the travel office add ‘black henna’ warnings to briefings; that *black henna warning meme organism* replication through reputable sources was a useful way to manage risk.

There was a high level of *black henna warning meme organism* replication in the Trip Advisor Forums from 2005 to 2013. People who went to Trip Advisor Forums to find information about their destination may have been exposed to *black henna warning meme organisms* during other web searches. In 2006, a person from Durham, UK, posting about an injury in Sharm El-sheikh, Egypt, specifically recommended online searching to bolster a ‘truth claim’ for her *black henna warning meme organism*. This person replicated *black henna warning meme organisms* from global meme sources, assembled by online search engines producing results in the English language, “For more information, please do a search on black henna in ASK or GOOGLE. It will not take long before you find some rather real warnings from UCLA and other organizations.”⁹⁶¹

Tripadvisor.com forums carry advertising and prices for hotels in vacation areas. Guests often get ‘black henna’ from artists on the grounds of these hotels, on the assumption that all amenities in a five-star hotel will be safe and regulated; the hotel ‘black henna’ is assumed to be safe, as opposed to itinerant vendors’ ‘black henna’ being dangerous, “Just please don't tell me that when you guys had one done it was from a beach vendor or something like that. Perhaps that's why I didn't have a problem.”⁹⁶² Unfortunately, PPD did not cease to be harmful when applied in an expensive Punta Cana hotel.⁹⁶³

A year later, another mother reported that her child had been injured at by black henna at the same Punta Cana hotel as the person who had posted previously in the *tripadvisor.com* thread. The *black henna warning meme organisms* may not have replicated locally through the hotel or artists in Punta Cana; the 'black henna' memes of production, profit, and desire had replicated. The *black henna warning meme organisms* were replicating globally online and through periodical English language publications, though not so prolifically as to replicate into all visitors; either enough people did not acquire the meme or enough chose to ignore it. Artists were still working at the hotel. "I wanted to bump this, as the same thing has just happened to our son. He got his tattoo on the 3rd day that we were there, by the end of the week it was completely blistered, and now that the dye has worn off the entire area is red, raised & scaley - have just gotten back from the doctor, he says it will be a miracle if it doesn't scar."⁹⁶⁴ Another person commented on the lack of meme replication following complaints and warnings, "We also stayed at the iberostar and had a wonderful time (this was our 6th trip there!), but i am highly distressed that this has been brought to management's attention, and is still happening. I intend to email and/or call the GM directly to see if something can be done about this."⁹⁶⁵ To the frustration of parents of injured children,⁹⁶⁶ the *black henna warning meme organisms* were unevenly distributed, or if the warnings were evenly distributed, they were unevenly enacted.⁹⁶⁷

Parents were also upset that *the black henna warning memes* had unevenly replicated among pediatricians, many children did not get the treatment needed. The consistent physiology of the injuries as they were reported online globally pointed to an identical causative agent in all of the injuries, no matter what age, sex, race, or gender. The global injuries were not being transformed locally into consistent understandings. By 2006, warning memes from *hennapage.com*, the FDA, dermatologists, Consumer Watchdog, English language periodical

news publications, and Google searches on black henna were fairly consistent in their warnings, but replicated into a limited number of people: the *black henna warning meme organisms* were replicating to the extent of their boundaries, and not beyond.

On the Cruise Critic, www.boards.cruisecritic.com, one unusual meme organism was replicated, that ‘black henna’ is used to get children hooked on drugs.⁹⁶⁸ The *black henna children hooked on drugs meme organism* appears to not have been a robust online replicator; there were no further returns found for that meme on any search engine. Other discussions of ‘black henna’ injuries associated with Carnival Cruise focused on where the boundaries of the cruise line’s responsibility ended and whether the black henna artists at the dock were under the control of the cruise line. (They were not.)

Through the first decade of the twenty-first century *black henna meme organisms* evolved and replicated in their network environments to the boundaries of those environments. As Schifman demonstrated, memes replicate to boundaries language and cultural boundaries and fail to replicate, or replicate weakly beyond those boundaries.⁹⁶⁹ Periodical news and online black henna warning memes replicated into the understandings and network environments of people who spoke English and who had first-hand experience with the injuries from ‘black henna.’ These people both produced and consumed these *black henna meme organisms*, and replicated them to others in websites, online forums, blogs, and social media. The *black henna warning meme organisms* failed to replicate into the network environments of ‘black henna’ artists unless they saw extreme injuries; mild rashes were generally dismissed as trivial, a vacation risk similar to jellyfish stings, mosquitoes, and sunburns. The *black henna warning meme organism* does not appear to have replicated into the management of tourist venues where ‘black henna’ artists worked on or near the premises. This may have been self-serving denial of the problem, or it

may have been a genuine lack of memetic replication. *Black henna meme organisms* co-evolved differently in the network environments of each group as they produced and consumed meme organisms that served their own self-interest, and their own experience. The group most vulnerable to 'black henna' and which had little access to online and periodical news publication warnings was children. Children were driven to imitate other children who were getting temporary tattoos, and they craved the tattoo symbol of adulthood, power, and rebellion.

CHAPTER IV. MATERIALS PART 5: MEDICAL JOURNAL MEMES

The Evolution of *Black Henna Meme Organisms* in English Language Medical Journals

Diagnosis and treatment of PPD injuries were instrumental to the evolution of ‘black henna’ warning memes. PPD was first used in hair dye in 1863 and the medical community understood that between 4% and 16% of the population are naturally sensitive to the chemical, and that 1% of the population is acutely sensitive.⁹⁷⁰ They did not know that artists were painting skin with extremely high PPD concentrations⁹⁷¹, and large skin applications thus exponentially increased the probability of sensitization, particularly in children.⁹⁷² Skin painting injuries and hair dye allergic reactions could require emergency hospitalization; early intervention and diagnosis generally stabilized a person if there was a rapid and accurate diagnosis. Hypoxia, renal failure, and pulmonary edema could be managed with supportive treatment. Blistering, edema, eruptions and lichenoid lesions could be gradually resolved with cortico-steroids, though invasive infections worsened some conditions. The fatal dose of PPD was considered to be 10g.⁹⁷³

The diagnosis of ‘black henna’ temporary tattoo injuries lay at the intersection of three medical disciplines and several different cultures. The boundaries enclosing these disciplines and cultures delayed and confused diagnosis of these injuries for nearly twenty years. Allergists and dermatologists understood allergic reactions to PPD as reactions to permanent oxidative hair dye but they had not seen the severe reactions created by high concentrations of PPD painted onto skin. When used as hair dye the PPD concentrations are assumed to be no more than 3% when diluted. When painted on skin PPD concentrations from 12.5% to over 80% have been reported; one study in 1966 demonstrated that a 10% concentration of PPD in cutaneous exposure would sensitize 100% of people.⁹⁷⁴ Pediatricians were unfamiliar with reactions to hair dye; exposure

to hair dye is a common problem with adults in their middle to late years. Emergency staff, viewing severe reactions for the first time, interpreted these injuries as chemical burns or brandings.

Women in Somalia, Sudan, and India added PPD to their henna during the 1980's, possibly as early as 1970 causing local epidemics of 'black henna' injuries, but clear clinical descriptions and diagnosis of their injuries were not published in English language medical journals for years and then only in letters and notes in medical journals. In the early years of 'black henna' local epidemics the declaration of ingredients on packages of henna was in a language other than English, spurious, or entirely absent, masking high levels of the chemical under the name "Natural Henna."⁹⁷⁵ Henna artists kept their 'black henna' mixes secret; this was an obstacle to the diagnosis and treatment.

As the epidemic globalized, the injuries in host areas of tourism presented in donor countries complicated diagnosis because patients did not know what had been painted on their skin; they only knew it as 'henna.' Since patients presented saying they had gotten 'henna,' all physicians looked to previous medical journal entries on henna, and found very little. Henna not well understood except as a hair dye in the countries where physicians wrote and submitted articles to English language medical journals about injuries in tourism. Henna was almost universally considered harmless as a hair dye; the injuries were perplexing.

The citations of published medical journal articles on henna and 'black henna' injuries are tracked in Google Scholar, showing the number of times an article is cited in subsequent research, so it is possible track the *black henna medical diagnosis meme organism* replication in the medical understanding of 'black henna.' The meme organisms of henna, black henna, and

PPD competed, cooperated, replicated, evolved, or become extinct as medical journal articles are published on the topic. The leading medical journal for the description, diagnosis, and treatment of PPD body painting was *Contact Dermatitis*, and most injured people were referred to a dermatologist at some point. Pediatric journals published information on pediatric injuries from black henna. At the time of this writing, there have been over four hundred articles written and published by physicians on PPD body painting: ‘black henna.’ In this analysis, I do not reference all articles, but I include ones that are representative of the body of information.

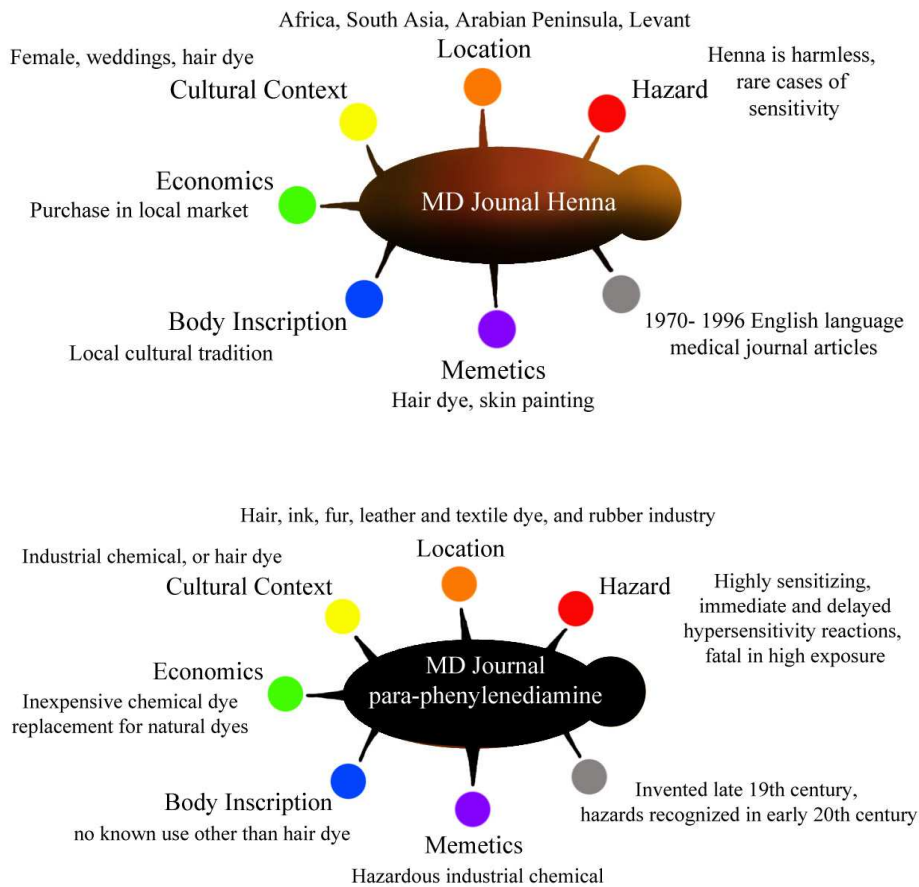


Figure 55: *Henna* and *black henna* medical meme organisms in English language medical journal articles prior to 1990

Cronin's article in *Contact Dermatitis* from 1979 described the allergic reaction to henna as immediate sneezing, hives, and angioedema experienced by a hairdresser when she mixed henna powder for dyeing hair.⁹⁷⁶ Wearing a mask when mixing henna, or having someone else do the mixing, relieved the patient's allergy. This reaction was completely unlike the eruptions to skin painting. The henna injury mechanisms in this article, which referred only to an allergic reaction to henna powder, and not to skin painting were replicated and applied to fifty-two further medical journal articles.

A short communication by Pasricha, Gupta, and Panjwani in the *Contact Dermatitis* in 1980 describes a woman in India who had allergic reactions to henna with palpovessicles and blisters at the place of contact.⁹⁷⁷ The physician compared his patient's allergic reactions to henna against other vegetables, but he did not test her for PPD sensitivity. At that time, packaged Indian henna did not have declared ingredients, and without testing the product for PPD, there would not have been an easy way to determine the cause of the injury. The woman's blisters were consistent with a PPD hypersensitivity reaction, not a henna allergy as described by Cronin. This paper with its misdiagnosis was cited in fifty-four further papers.

Gupta, Mathur, Agarwal, and Singh in India reported a similar case in 1986⁹⁷⁸ where blisters appeared on a 13-year-old girl's hands in the shape of previously applied henna patterns, a delayed hypersensitivity reaction as occurs with PPD. This paper was cited in twenty-one further medical papers. Another case of 'black henna' blistering was described by Ningam and Saxena in 1988, again was assumed to be henna, and the patients were not tested for PPD sensitivity.⁹⁷⁹ This paper was cited in thirty-one further medical journal articles. In these three cases, the physicians commented that every person in India had used henna, frequently, and the practice had gone on for centuries, without previous descriptions of allergic reaction. "In spite of

such extensive use over so many years, instances of contact hypersensitivity to this agent have not been reported.”⁹⁸⁰ They interpreted this as evidence of henna allergy being very rare. Gupta considered that there might be PPD products marketed as henna, but does not seem to have tested the patient for sensitivity. The physicians did not consider in their reports that products being marketed as henna might have changed, and the contents might no longer be henna.

New ‘black henna’ injury memes entered from Sudan, “Henna is used singly or in combination with other colouring agents such as para-phenylenediamine and coffee, etc. Over 20 cases of toxicity, some fatal, have been reported in Khartoum alone in a 2-year period, Sudanese women use henna mixed with para-phenylenediamine. The initial symptoms ... occur within hours of application of the dye to the skin. The symptoms may then progress on the second day to anuria and acute renal failure and ultimately death due to renal tubular necrosis. Whether this toxicity is due to PPD per se (probably very impure), or whether its toxicity is potentiated by combination with henna powder is unknown.”⁹⁸¹ This article from 1986 mentions that twenty women in Khartoum had been injured by henna mixed with PPD, but there is no citation for this information. This may have been a private communication between the physicians, or at a conference.

A medical paper on black henna injuries in Khartoum was published six years later, in the *Annals of Tropical Pediatrics*, “Poisoning from henna dye and para-phenylenediamine mixtures in children in Khartoum,” attributing the deaths of six children to henna mixed with para-phenylenediamine mixed into henna and painted on skin between 1984 and 1989,⁹⁸² and was cited in sixty-four subsequent publications. The identification in a medical journal article of an identical injury on a western white person was not made until 1999, seven years later, after

'black henna' had globalized, become popular, and injured people in areas of tourism for two years.

Medical journal articles have a practice requiring a literature review of previous articles on the subject. Because three early *Contact Dermatitis* articles assumed that the causative agent for blistering was henna without testing for PPD, physicians doing a dermatological literature review of henna related injuries in the late 1990s had a period of confusion about the sensitizer in these injuries. The *Annals of Tropical Pediatrics* was not as widely available as *Contact Dermatitis* at the time. The *black henna medical meme organisms* indicating PPD as the cause of injury were slow to replicate into major English-speaking western medical journals. In 1996, an article published in the *Lancet* about a Saudi woman who was hospitalized after having her feet painted with 'black henna' proposed that PPD as the cause of her collapse, but the artist was not willing to divulge the ingredients in her henna paste.⁹⁸³ This article was cited thirty-eight times; *black henna PPD injury and diagnosis meme organisms* eventually competed effectively against earlier papers that misconstrued henna as the sensitizing agent.

In 1998, Wakelin, Creamer, Rycroft, White, and McFadden published a short communication, "Contact Dermatitis from para-phenylenediamine used as a Skin Paint" identifying PPD as the causative agent in injuries on three women in London: a 32-year-old Somali woman whose skin was painted with Bigen hair dye, a 23-year-old Somali woman, painted with black powder from hair dye salon, and a 25-year-old woman who was a tourist in Goa.⁹⁸⁴ All of these injuries showed a blistering delayed hypersensitivity reaction where the henna patterns had been painted. The authors noted that there had been only one other published medical record of skin injuries from being painted with PPD. This work was cited in thirty-five subsequent papers. In 1999, in Genoa, Italy, Gallo replicated Wakelin's *black henna PPD injury and diagnosis meme organism*

in a short communication in *Contact Dermatitis* with “Contact dermatitis from para-phenylenediamine used as a skin paint: a further case.”⁹⁸⁵ In this case, Peacock hair dye was the causative agent, painted on a woman, and called ‘henna.’ This article was cited twenty-five times in further medical journal articles.

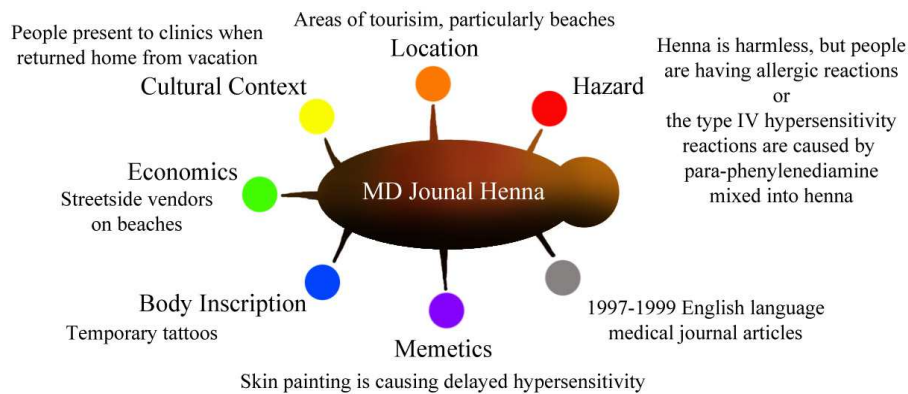


Figure 56: *Black henna injury and diagnosis meme organism* evolving from an unknown sensitizer to PPD being identified as sensitizer in English language medical journal articles

Two letters to the editor were published at about the same time in *Australasian Journal of Dermatology*. The first described a blistering temporary tattoo on a 17-year-old male, but with no understanding of the sensitizer; this letter was cited only eleven times in subsequent publications.⁹⁸⁶

Nixon and Mohamed wrote a response to the first letter naming PPD as the sensitizing chemical in blistering skin painting done on children vacationing in Bali. “The patients reported seeing the PPD being mixed with a solvent, such as either petrol or kerosene, which is apparently used to

aid skin penetration. The mixture is then painted onto the skin.”⁹⁸⁷ Nixon and Mohamed’s response was cited eighteen times in subsequent articles.

Lewin, MD, writing in the Canadian Medical Association Journal submitted a letter to journal correspondence about a four-year-old boy who had a ‘henna tattoo,’ applied in the summer of 1998, which presented with blistering weeks after it was applied. Lewin stated, “This is the first reported case of acute contact dermatitis with keloid scarring associated with henna. It suggests that on rare occasions temporary tattoos may become permanent.”⁹⁸⁸ The *black henna PPD injury and diagnosis meme organism* had not replicated to this physician; he replicated the memes from Cronin’s article.⁹⁸⁹ Lewin’s misconception was cited in twenty-six subsequent medical journal articles.

Lestringant, Bener, and Frossard reported fourteen more cases from the United Arab Emirates between 1989 and 1999, pointing out that henna artists’ ‘secret formulas’ contained ingredients that were highly sensitizing,” Three other patients, including one with lichenoid lesions had developed reactions to mixtures of henna used in henna salons. They were positive to PPD.”⁹⁹⁰ This paper was cited forty-nine times in subsequent medical journal articles. The early articles with a PPD injury meme replicated further than the articles where henna was blamed for injuries.

The reluctance of women to be tested for sensitivities, the unwillingness of artists to submit their pastes for analysis, and the reserve and privacy of women in some cultures slowed down the medical understanding of adulterants in common use by henna artists. Memes replicated poorly beyond the boundaries of women’s communities into the western medical profession. The fact that the earliest regions using PPD as skin paint on women were areas that received scant coverage in English language medical journals further suppressed the replication of PPD injury

meme organisms. By 1999, when Lestringant's article was posted in the *British Journal of Dermatology*,⁹⁹¹ PPD had been used to blacken henna for over twenty years in its indigenous North African, Arabian Peninsular and South Asian countries. When English-speaking parents brought their children to English-speaking physicians in developed countries *black henna PPD injury and diagnosis meme organisms* evolved and replicated into medical journals within three years of 'black henna's' surge of popularity into the third spaces of tourism. When women and children in Sudan, Somalia, and the Arabian Peninsula reported 'black henna' injuries, warning memes did not evolve and replicate into English language medical journal publications for over ten years.

The replication of PPD memes to practicing physicians was uneven. In 1999, a woman went to her physician with an injury from black henna but the physician replicated misinformation. "The doctor told me that for people of color (I am a black female), henna causes the pigment of our skin to change, long after the Henna is gone. She then advised me that it could take anywhere from 6 to 9 months for it to fade. I do not have a scar. And if it didn't, I could then try bleaching cream (I don't want to do that)."⁹⁹² In 2004, a young woman was painted with PPD in Vancouver. Her physicians did not recognize the injury; years later, a physician correctly diagnosed the problem in 2010.⁹⁹³

In 2000, Lyon, Shaw, and Linder wrote correspondence to the Vignettes section of the *Archives of Dermatology* that they believed henna applied at Venice Beach California could cause a type IV hypersensitivity reaction.⁹⁹⁴ They were unaware that PPD was routinely mixed to make 'black henna'. They cited the articles by Gupta, Ningam, and Parisha, replicating their erroneous memes.

In 2000, sixteen years after children died in Sudan from being painted with para-phenylenediamine, twelve years after Barbara Hershey portrayed Mary Magdalene with black henna and Dr. Gupta suspected that a henna injury in India might be caused by PPD, seven years after a Saudi woman collapsed after being painted with what was probably PPD, three years after Amunez developed black temporary tattoo paste and sold globally to vacation areas, three years after *hennapage.com* was flooded with requests for ‘black henna’ to emulate tribal tattooing and Prince got black henna from Setona, three years after artists on the Henna Page Discussion Forum deduced that the problem with black henna injuries was PPD, two years after Madonna’s video showing her hands ornamented with ‘black henna’ and the early injuries were reported on the Bali Travel Forum and The Henna Page Discussion Forum, the *black henna PPD injury and diagnosis meme organism* evolved and replicated into English language medical journal articles.

Mohamed and Nixon published a case report of two full body reactions in adults who visited Bali and were painted with PPD in the *Journal of Australasian Dermatology*; their paper replicated memes from five papers that described PPD hypersensitivity reactions, three of them linking ‘black henna’ to PPD.⁹⁹⁵ This paper was cited in nineteen subsequent English language medical papers.

Le Coz and three other French physicians published an observation of four case studies in the *Archives of Dermatology* of two boys and two adults with ‘black henna’ injuries received on vacations in 2000, with a clear conclusion about PPD skin painting in areas of tourism. The memes in their observation were replicated and cited in ninety-six subsequent English language medical papers. “The mixtures used by the artists possibly contained natural henna, a rare and weak skin sensitizer, and likely contained chemical coloring agents, diaminobenzenes, such as p-phenylenediamine and/or diaminotoluenes. The long duration of skin contact, the high

concentrations of sensitizing materials, and the lack of a neutralizing agent dramatically increase the risk of skin sensitization, which is why such substances are prohibited for direct skin application.” They expected many more injuries to follow, “Because of the worldwide vogue of skin painting, future cases of sensitization to p-phenylenediamine and diaminobenzenes or diaminotoluenes are expected.⁹⁹⁶

Sidbury and Starrs posted a ‘Contact Puzzle’ in the September 2000 edition of *Contact Dermatitis*, with a photograph of a man’s bicep blistered from a temporary tattoo, to see who could correctly diagnose the injury. They cited Wakelin and Gallo to support their conclusion of PPD as the causative agent, but also cited Lewin’s work that did not recognize that henna was frequently adulterated, which muddied their conclusion. “This case underscores the fact that, although the allergenicity of pure henna is low, more allergic contact reactions to henna, or perhaps para-phenylenediamine- contaminated henna, will likely be seen with its increasingly popular use.” The section editor was Robert Brancaccio, MD, who would later write conclusive papers on the addition of para-phenylenediamine that would be replicated into many medical journal articles.

In 2001 and 2002, a number of English language medical journal articles diagnosing PPD as the causative agent in black henna injuries came very quickly. The *black henna PPD injury and diagnosis meme organism* began to replicate and evolve steadily within western medical journals.

Contact Dermatitis published a short article in 2001 by Jappe, Hausen, and Petzoldt, which reviewed the cases of five children injured by black henna painting while on vacation, and stated that “Since 1997, there have been increasing reports of sensitization to PPD/henna mixtures,

which tourists remain unaware of ...” Their patch tests indicated decisively that the sensitizing agent was PPD, and not henna.⁹⁹⁷ The children were treated with topical corticosteroids, and hypopigmentation followed. This article cited Wakelin, Creamer and Wycroft, as well as Gallo, and was cited in sixty-three subsequent publications. Onder, Atahan, Oztaş, and Oztaş wrote an article from Turkey about three children injured by ‘black henna’ on vacation,⁹⁹⁸ cited in forty-seven subsequent publications. They cited Abdulla and Davidson, Le Coz, Lefebvre, Keller, and Grosshans, and a previous study of their own. Being Turkish, they understood cultural use of henna, and the addition of PPD to henna was new to them. They recommended treatment with topical steroid cream (beclomethasone dipropionate), and noted hypopigmentation following the subsidence of the blistering, which went away very gradually.

Schultz and Mahler’s article on black henna was published in 2002; an eight-year-old male and an eighteen-year-old female were injured by ‘black henna’ on vacation in 2000, the boy in Egypt, and the young woman in Ibiza. In 2001, their injuries were still visible.⁹⁹⁹ The young woman subsequently was allergic to eye makeup, “dyed her eyebrows and lashes in black, followed by acute peri-ocular eczema” but not to henna hair dye. This article was cited twenty-eight further times. The *black henna PPD injury and diagnosis meme organism* evolved cross sensitization variants.

The previous reports were from the Mediterranean region. Chung, Chang, Yang, Hung, Wong, Lin, and Chan reported from Taiwan about ten injuries from ‘black henna’ temporary tattoos received on vacation in Indonesia and Thailand.¹⁰⁰⁰ All of the patients who were patch tested responded strongly to PPD. This article was cited seventy-four further times. A later paper by Chung, Wang, and Hong, were told by their patients that the ‘black henna’ artist told them that the temporary tattoos were safe and natural. “Four Taiwanese patients observed at our

dermatology clinic developed itchy and inflamed skin reactions to temporary paint-on tattoos, which were applied in Thailand or Bali. They were all told that the dye used was a safe vegetable one or henna, whose blackish coloration would last about 2 weeks. All four patients denied prior exposure to henna.¹⁰⁰¹

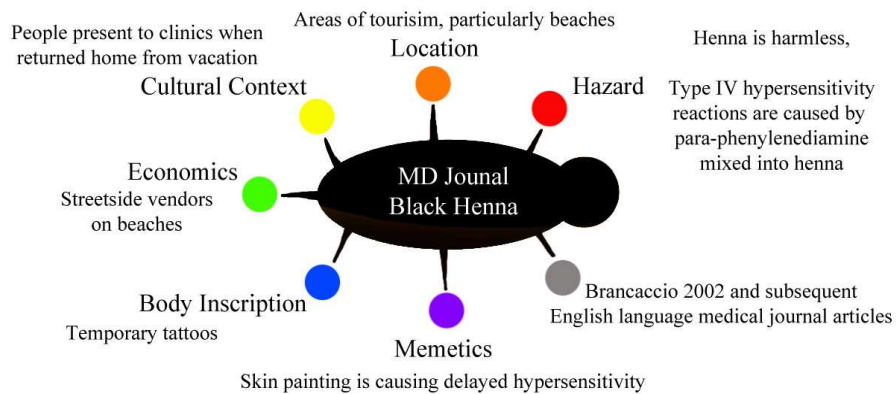


Figure 57: Diagram of stabilized *black henna injury and diagnosis meme organism* following Brancaccio

One of the most influential articles on ‘black henna’ was by Brancaccio, Brown, Chang, Fogelman, Mafong, and Cohen. The abstract and method, building on the previous articles, was precise and definitive.

BACKGROUND: Temporary black henna tattoos are very popular as body adornment. Although contact allergy to natural henna is unusual, the inclusion of hair dye, p-phenylenediamine (PPD), increases the risk of contact sensitization.

OBJECTIVE: This study was performed to identify the presence and concentration of PPD in a black henna tattoo mixture to which our patient developed contact allergy.

METHODS: The presence of PPD in a black henna tattoo mixture, various samples of commercially available henna powders, and several hair dye products was qualitatively and quantitatively detected using high performance liquid chromatography (HPLC).

RESULTS: This study demonstrated that PPD was present in the black henna tattoo mixture at a concentration of 15.7%, which is significantly higher than commercial hair dye preparations.

CONCLUSION: The presence of PPD in black henna tattoo mixtures in high concentration poses a health hazard and a risk of allergic contact sensitization with potential long-term consequences.¹⁰⁰²

No paper previously had obtained the body art paste and tested it for concentration of PPD, largely because the paste was unobtainable weeks after application and far from the place of application. This black henna mix was 15.7% PPD, more than Bigen, at 12.3% and far more than Beautiful Collection by Clairol at 1.7%. At one hundred sixteen citations, the *black henna PPD injury and diagnosis meme organism* in this article was cited and replicated directly into one quarter of all subsequent papers on 'black henna,' and indirectly into most of the rest. The article went on to define related problems and to recommend action:

Temporary as they are, black henna tattoos may have permanent sequelae, including lifelong allergy to hair dye and related allergens, scarring of the tattoo site, and postinflammatory pigment alteration. This sensitization can affect occupational decisions and limit career choices.

The most severe reactions to this combination of PPD and henna in tattoos have been reported in Sudanese women. This syndrome begins with angioneurotic edema and progresses to acute renal failure and death caused by renal tubular necrosis.

Although prohibited for sale to consumers by the FDA, black henna tattoo mixtures also should be banned for use by tattoo artists. The traditional method of henna tattooing using only the natural plant powders without additives would be much safer and limit the risk of contact allergy.¹⁰⁰³

The Stabilization of *Black Henna Injury and Diagnosis Meme Organisms* in the Network Environment of English Language Medical Journal Articles

Further physicians writing in English language medical journal articles replicated and gradually evolved the *black henna injury and diagnosis meme organism* as presented by Dr. Brancaccio, as patients returned from vacations with ‘black henna’ injuries and the cases were written up and published. Dose and time accounted for some of the variation in severity of reactions.¹⁰⁰⁴

A new method of dermatological patch testing was proposed for ‘black henna’ as after these extreme sensitizations, the usual 1% pinprick patch tests caused +++ allergic reactions. These unacceptably strong blisters were painful to the patient, particularly if the patient was a child; a 0.1% PPD test was found to be sufficient to elicit a positive reaction after a ‘black henna’ temporary tattoo.¹⁰⁰⁵ Though the injury and diagnosis meme organisms replicated unevenly through the medical community network environment, the rapid evolution of the meme organisms slowed.

Wang and Krynitsky developed a methodology for determining the levels of para-phenylenediamine in ‘black henna’ paste.¹⁰⁰⁶ Two later research works on black henna quantified the levels of PPD in ‘black henna’ paste used by artists working Mediterranean beaches and vacation areas and identified the allegedly natural ‘henna stone.’ Almeida, Borrego, Pulido-Melián, and González-Díaz, quantified the levels of PPD in pastes used by street side vendors in the Gran Canaria. They found “Only one of the three preparations used by tattoo artists contained lawsone (0.21–0.35%), and all three were adulterated with PPD (1–64%).”¹⁰⁰⁷ Ozkaya, Yazganoglu, Arda, Topkarci, and Ercag purchased ‘henna stone’ in Turkish markets and tested it for para-phenylenediamine: it was industrial use quality, “... PPD was found in all of the six

samples of the so called "henna stones" at concentrations ranging between 84.89 and 90.90%.”¹⁰⁰⁸

Evolutions of the *Black Henna Injury and Diagnosis Meme Organisms: Misinformation, Pediatrics, and Sensitizations*

Pegas, Criado, Criado, Vasconcellos, and Pires noted the globalizing problem of artists not knowing the contents of the ‘black henna’ they were using, or not telling their clients what they are using, “Temporary tattoos are widely applied today all over the world. The tattoo makers explain that they use "natural henna paint," although in fact they use "black henna," which includes a mixture of many substances, among them p-phenylenediamine,” and described the case of a twelve-year-old boy with a massive reaction.¹⁰⁰⁹

Black henna injury and diagnosis meme organisms replicated into pediatric medical literature gradually; pediatricians had to rely on the description of the ‘black henna’ weeks after application when the child presented. When artists had advertised it as ‘henna,’ the content of the paste components was a source of confusion.¹⁰¹⁰ Parents who believed that henna was natural and harmless allowed very young children to have a tattoo, thinking it was as harmless as face paint, and that it was amusingly transgressive for a child to have a tattoo.¹⁰¹¹ Medical journal articles record ‘black henna’ applied to children as young as thirty months;¹⁰¹² it is entirely possible that younger children have also been painted with para-phenylenediamine. If a child had one exposure to ‘black henna’ without incident, then returned on the next vacation and got another, the consequences,¹⁰¹³ including future consequences,¹⁰¹⁴ could be severe. Severe reactions to hair dye occurred following black henna temporary tattoos; 40% or more of women

in North America dye their hair, the potential for contact dermatitis to PPD in hair dye is very real. People did not connect their vacation tattoo with extreme reactions to hair dye.¹⁰¹⁵ This ‘black henna’ exposure has become an epidemic of extreme PPD sensitization, affecting global industries of PPD use in consumer products and manufacturing.¹⁰¹⁶

Other teenagers who had received black henna temporary tattoos as children, and were unaware that there was a connection between their vacation souvenir and hair dye, were hospitalized when they dyed their hair.¹⁰¹⁷ The extreme reactions to hair dye following what might be an unremarkable rash following an impulsive vacation ‘black henna’ are the most concerning part of the epidemic of PPD sensitization, affecting global industries.¹⁰¹⁸

Because of the emergence of potentially fatal reactions to permanent oxidative hair dye in a person who had previously had a ‘black henna’ temporary tattoo, hair dye companies proposed a warning, “The new regulation [1], effective by the 1st of May 2010 at the latest, is replacing the current warning which reads “Can cause an allergic reaction” with the following, “Hair colorants can cause severe allergic reactions. ... Temporary “black henna” tattoos may increase your risk of allergy. ... Do not colour your hair if: ... you have experienced a reaction to a temporary “black henna” tattoo in the past.”¹⁰¹⁹

Some people were cross-sensitized by ‘black henna’ to necessary medications¹⁰²⁰ such as benzocaine, sulfonamide antibiotics,¹⁰²¹ and sunblocks containing PABA.¹⁰²² The tattoos could also cause cross-sensitization to azo textile dyes derived from PPD so that wearing and working with dyed cloth¹⁰²³ or even wearing black socks¹⁰²⁴ could cause a resurgence of allergic reactions.

Children who had ‘black henna’ risked of sensitization to thiuram¹⁰²⁵ and colophony,¹⁰²⁶ chemicals used in the rubber and latex industries. Products made of latex and rubber could also cause resurgence of allergic reactions people sensitized by ‘black henna.’ A person cross-sensitized to thiuram through a black henna temporary tattoo would have to avoid for the rest of their life:

- Industrial and safety products made with natural rubber, butyl rubber, nitrile or neoprene - such as boots, shoes, adhesives, plugs, goggles, mats, headphones, masks, respirators, aprons, gloves, cords, tubing, insulation, and sheeting
- Office products made with natural rubber, nitrile or neoprene - such as rubber bands, erasers, mats, and utility gloves
- Health care equipment made with natural rubber, butyl rubber, nitrile or neoprene, such as medical and utility gloves, masks, bed sheeting, dental dams, anesthesia equipment, aprons, and tubing
- Sports equipment made with natural rubber, butyl rubber, nitrile or neoprene - such as wetsuits, shoes, boots, masks, racquet and club handles
- Chemicals used to prevent mildew or mold
- Agricultural chemicals used as fungicides, seed protectants, and pesticides
- Household products made with natural rubber, butyl rubber, nitrile or neoprene - such as rubber bands, ear-and headphones, masks, condoms and diaphragms, goggles, shoes, utility gloves, swimwear, toys, hoses, tubing, and elastic

- Sports equipment made with natural rubber, butyl rubber, nitrile or neoprene - such as shoes, wetsuits, boots, masks, racquet and club handles
- Chemicals for the garden such as fungicides, pesticides and animal repellents¹⁰²⁷

Solvents in 'black henna' also gave rise to blistering and allergic reactions from fragrances in the same chemical family as PPD.¹⁰²⁸

Cultural Use and the Boundaries of the *Black Henna Injury and Diagnosis Meme Organism*

Replication

People who used 'black henna' in cultural applications at weddings and Eids were not immune from injuries, though they often had a strong social commitment to support their fondness for 'black henna.' "Black henna ----- harmful????????????????? REALLY????????????????? I live and was born in Dubai and have been using black henna for over 10 yrs now!!!! It is NOT AT ALL harmful.... and my hands are still smooth and gorgeous like they used be be... and yes absolutely NO SCARS here as well."¹⁰²⁹

Some people regularly used 'black henna' because it was popular in their social group and were willing to accept the blisters and pain of the 'black henna' beauty trend. "I'm a big fan of henna & piko designs, especially the bibi harusi (bridal) style, which resembles hand-painted, intricate black lace with orange accents on your feet, legs, hands, and arms. ... Piko is actually Chinese black-hair dye powder mixed with water, a newer phenomenon, a bit toxic, but still a favourite look in Zanzibar. I'm sometimes prone to acidic burns on my legs from piko, but I love the dark black inky look, and bear the pain."¹⁰³⁰ It would be socially difficult for a woman visiting a

wedding or family event in a country where 'black henna' culture was popular to refuse being hennaed for the celebration when all the other women in her family were participating. When these women returned to the west, they presented to clinics¹⁰³¹ with blistering reactions from the 'black henna.'¹⁰³²

The *black henna injury and diagnosis meme organisms* gradually spread beyond English language boundaries as the epidemic globalized, into French,¹⁰³³ Danish,¹⁰³⁴ Spanish¹⁰³⁵, ¹⁰³⁶ and German,¹⁰³⁷ Swedish,¹⁰³⁸ Norwegian,¹⁰³⁹ Icelandic,¹⁰⁴⁰ and Dutch.¹⁰⁴¹

Black Henna Injury and Diagnosis Meme Organisms Give Rise to Meme Organisms of

Regulation

Physicians familiar with injuries from 'black henna' called for governmental regulation for public protection.¹⁰⁴², ¹⁰⁴³, ¹⁰⁴⁴, ¹⁰⁴⁵ Sharon Jacobs

MD was particularly activist in calling for regulation of para-phenylenediamine in henna art. She stated the problem, "Currently, the responsibility to protect children from unnecessary PPD exposure falls on the potentially unaware parent."¹⁰⁴⁶ She called for regulations, "The time is upon us to put into place protective laws placing specific rules regarding the sale or distribution of PPD laden temporary tattoo products and safeguard our children."¹⁰⁴⁷ She predicted the future consequences of inaction, "We would like to draw attention to the potential serious implications that children are being sensitized to PPD and might develop a severe allergic response.

Paraphenylenediamine also cross-reacts with permanent hair dyes and rubber, which can affect

future work prospects. Legislation might be needed to prevent the occurrence of similar cases.”¹⁰⁴⁸

The patent holder for PPD, Dupont, mandated that the chemical never be used in direct contact with skin, and would not be held responsible for any injuries from their product being used in any way other than as directed. Therefore, it should be illegal and prosecutable for any person, anywhere, to paint skin with PPD, though local ordinances do not support this with enforceable statutes. The FDA did not designate local regulation and enforcement of ‘black henna’ until 2014.

One area at a time responded to suits brought by parents of injured children, making the appearance of responding to an injurious product. Rehobeth, New Jersey, outlawed ‘black’ henna in 2000.¹⁰⁴⁹ Wildwood Beach, New Jersey, went through the process of outlawing henna between 2000 and 2002.¹⁰⁵⁰ Santa Monica, California, enjoyed henna legally in 2001,¹⁰⁵¹ with artists warning about ‘black henna,’ but outlawed all henna in 2002 because of injuries.¹⁰⁵²

Florida outlawed ‘black henna’ in 2003, and provided a ‘call in’ service for people to contact the state to investigate artists working with PPD.¹⁰⁵³ ‘Black henna’ injuries in Florida continued.¹⁰⁵⁴

The House of Commons in the UK proposed law to outlaw black in 2003, but ‘black henna’ was still widely available from shops, and injuries continued.¹⁰⁵⁵ Health Canada¹⁰⁵⁶ outlawed ‘black henna’ in 2003¹⁰⁵⁷ but ‘black henna’ use continues at the date of this writing, in 2014.

In Borocay, Philippines, ‘black henna’ was outlawed, “The use of Black Dye or para-phenylenediamine(PPD) is strictly prohibited and posting warning sign on its dangers in a conspicuous place in the shop or a permanent post is mandatory; Use of pure Henna is mandatory,” but ‘black henna’ continued.¹⁰⁵⁸ “...Sadly the law in Boracay regarding these

things don't have any power on the locals, they continued to put black henna on the tourist and therefor continue to endanger the guests.”¹⁰⁵⁹

It remains possible for any person to purchase PPD legally and paint it on skin. The regulation of 'black henna' is resisted or ignored in many communities. Yoga Honey Bun contested the warning in a 'black henna' medical article, “Cool! So now I can still participate in illegal contraband without needing to ingest anything...and only apply it to me skin. I understand that the government may be trying to protect me, but I think it's a bit extreme to make it "illegal". Hmm, oppressive to freedom of speech? or expression? I think that there are probably other things to worry about, huh boys?”¹⁰⁶⁰

CHAPTER V: RESULTS AND INFORMATION VISUALIZATION

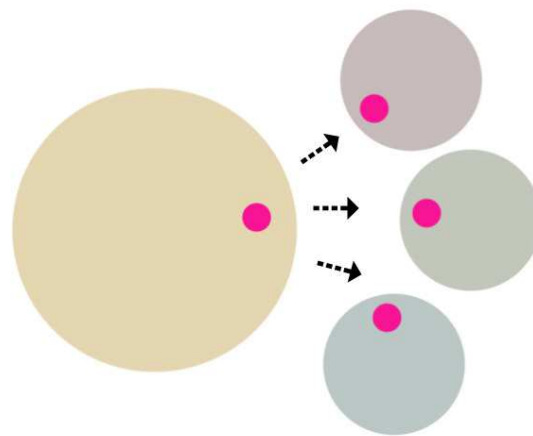
Visualizing the Qualitative History and Geographies of the Black Henna Meme Organisms through their Movement, Replication, Evolution, Cooperation, Conflict in Different Network Environments

The Archaeology of Knowledge and Memes

The quantitative history of the epidemiology of PPD sensitization can be discovered by uncovering the replication and evolution of the *black henna meme organism*. Foucault argued that there is an archeology of knowledge, that there is a field of discourse from which a new idea erupts, and knowledge is created through this discontinuous evolutionary process.¹⁰⁶¹ This processes occurs at all times and places, and creates a potentially infinite array of knowledges in a potentially infinite array of discursive fields. It is possible to restate, diagram, and map Foucault's process through memetics based on Blackmore,¹⁰⁶² Schiffman,¹⁰⁶³ Paull,¹⁰⁶⁴ and Coscia.¹⁰⁶⁵ The approach through memetics allows analysis to navigate through culture, hegemony, uneven development, orientalism, diaspora, economics, law, age, gender, and authenticity and focus on the movement of memes while avoiding some of the murkier verbiage of post-structural academic writing.

Memes are units of culture, units of the knowledge that exists in people's minds. Blackmore argues that memes are replicators: a replicator's single purpose is to replicate.¹⁰⁶⁶ Memes replicate through space into people's minds through thoughts, actions, and artifacts. By

extension, Blackmore argues that a *henna meme* replicates from one person's mind to another person's mind.¹⁰⁶⁷ The *henna meme* is a replicator, and must replicate. It may replicate by direct imitation through observation, through text or photographs in periodical publications or online, or through products with instructions. In the case of henna, if one person does henna and other people watch, the *henna praxis meme* has an opportunity to replicate into their minds. If one person has henna on their hands, a *henna body art meme* may replicate to an onlooker, but praxis and materials will not replicate until further information is accessible.

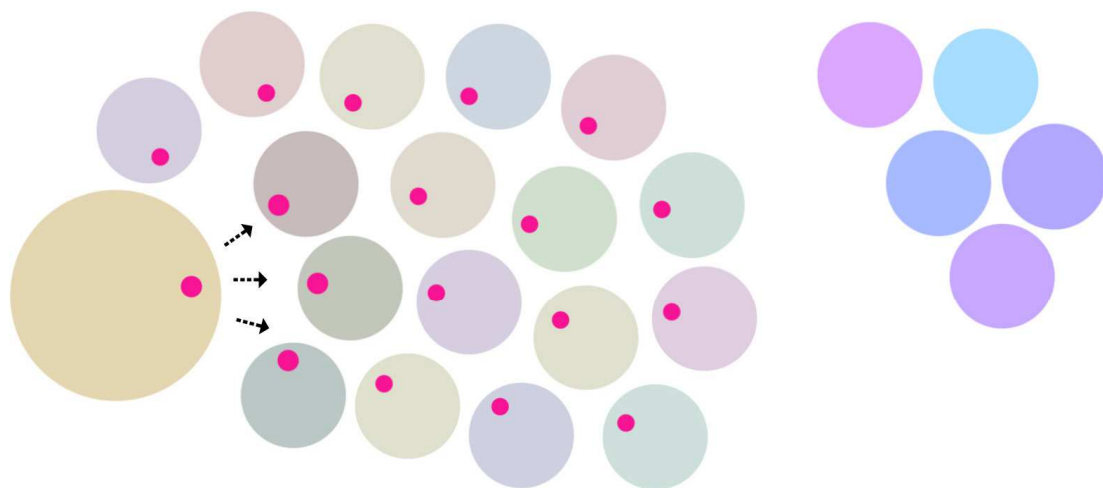


A meme is a replicator,
a unit of culture that replicates
from one mind to another

Figure 58: Diagram of a henna meme replicating from one mind to another

Schifman demonstrated that memes will replicate to the extent of a boundary and that boundary may be defined by social or physical access. The *henna meme* replicates through a social group of people who have seen or read about henna and may replicate more effectively if people have access to the plant material, otherwise the *henna meme* is decontextualized and theoretical. The *henna meme* can replicate within a boundary of henna resources, either real henna or a substitute.

The available resource base affects the nature in which a meme will replicate.¹⁰⁶⁸ The *henna body art meme* is more likely to replicate as a physical manifestation where people can purchase henna locally. A meme will not replicate outside of a boundary of information, demonstration and supply into a group, so *henna meme organisms* have limited ability to replicate into people who have never read about henna and who do not have access to henna. If other body marking memes, such as tattooing, exist in a person, then *henna meme organisms* may replicate based on those previously held body art memes, and the person may conflate henna with tattooing.

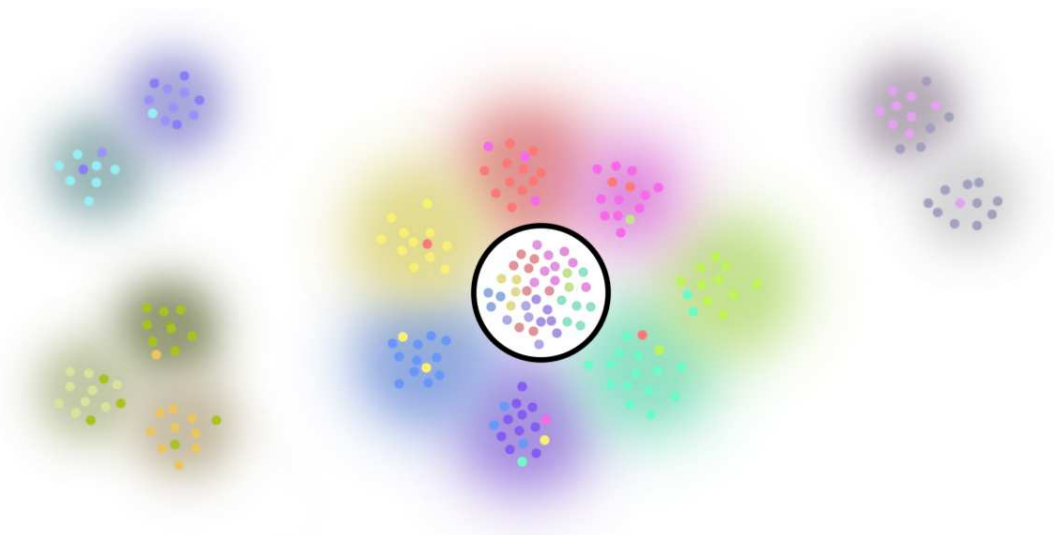


A meme is a replicator, a unit of culture that replicates from one mind to another.
 The meme will replicate to the limit of available resources.
 There will be a boundary beyond which it fails to replicate.

Figure 59: Diagram of *henna meme organisms* replicating through a social network environment to the limit of the network boundary.

As henna memes replicate from one person to another, the web of their connections tends to be follow their social network. Each person in a social group shares memes with rest of the group. If a henna meme replicates into one person in a social group, the henna meme may gradually

replicate across a whole group, evolving as necessary to best inhabit the greatest number of minds in the group.



A network environment may be one person's mind or an infinite number of minds.
Memes organisms constantly replicate and evolve into and among network environments.
All network environments are in a constant state of co-evolution,
simultaneously consuming and producing meme organisms: units of culture..

Figure 60: The smallest unit of a network environment is one person's mind. Henna memes replicating from other network environments compete, collaborate, and evolve to maintain the space in that mind and in the larger network environments.

A network environment has no given size, it may a network of one or many minds; the network environment may be stable for a moment, but is in a state of constant evolution as memes replicate, evolve, collaborate, compete, or become extinct within that network. Henna meme organisms will replicate into any available mind, and will compete and collaborate with other meme organisms for the available space. The smallest unit of network environment may be a

single person's mind and as brief as a single moment. A network environment may be infinitely large and could remain stable for an infinite period of time, but is unlikely to do so, as new memes evolve and attempt to replicate, and as situations change and require adaptation to comprehend. *The henna bridal celebration meme organism* has had an unusually long and stable replication since the Bronze Age and through many countries and civilizations.

A multi-person network environment has fuzzy boundaries, because people move in and out of the network, or may be involved in the network to a greater or lesser extent. A single person has a finite boundary; meme organisms within both large and small environments are in a constant state of flux. A person may be involved in many network environments at the same time. A henna artist in diaspora may be simultaneously consuming and producing memes from homeland, local peer group, and global network environments at once, or sequentially.

A henna meme becomes *truthy*¹⁰⁶⁹ when the network environment shares a meme organism and has participated in its evolution. The evolved form of a meme that is regarded by the network environment is regarded as 'truth' based on of the group's participation in the evolution of that meme; any member of the group who questions or rejects the 'truthiness' of that meme risks social ties to that group. Therefore, a person whose economic or cultural group enjoys 'black henna' may reject claims of injuriousness, because that person is are socially invested in relationships with friends, family, colleagues, and employers who see 'truth' that 'black henna' as a beautiful, profitable art form that has minimal risk. A person who has been injured by 'black henna,' or who knows of people who have been injured, may be socially invested in a group of physicians, family, friends, and colleagues for whom the *black henna warning meme organism* has become *truthy*.

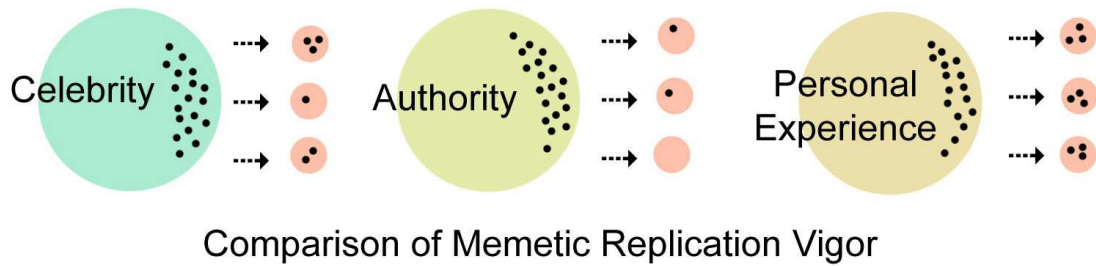
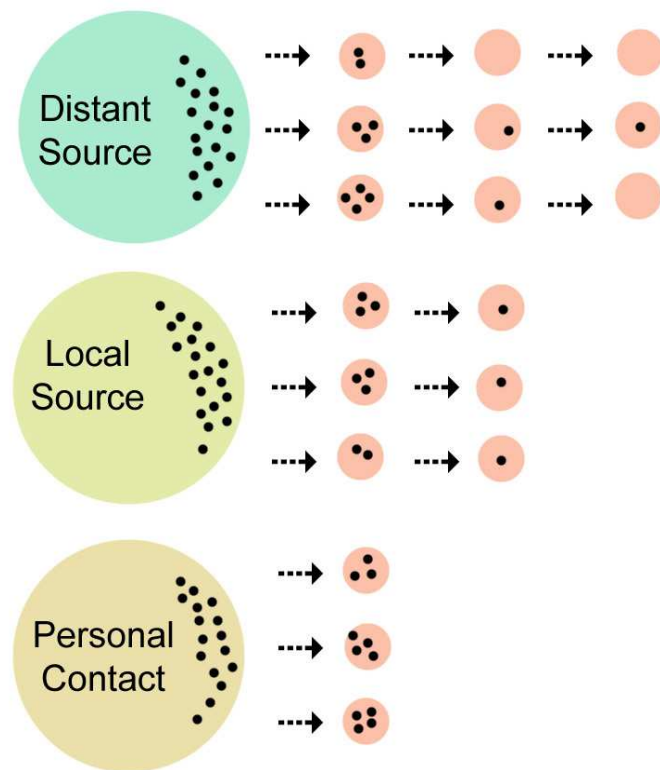


Figure 61: Diagram comparing celebrity, authority, and direct personal experience on meme replication.

Medically, the ‘truth’ that painting PPD on skin is highly sensitizing and may have life-long, even fatal, health consequences has been demonstrated through peer-reviewed medical journal articles, based on scientific method, case studies and clinical testing. In local network environments, cultural groups, the ‘truth’ of ‘black henna’ may be based on privileged first-person experience, as direct mimesis is a more reliable replication than mimesis through a distant source, such as text or reports from persons unknown to them. If a person sees benefit from ‘black henna,’ economic or social, has never seen a problem with ‘black henna,’ the *black henna warning meme organism* is unlikely to replicate. If a *black henna warning meme organism* comes from a source outside the social network that the person is bound to, the *black henna warning meme organism* may be vigorously rejected. This lack of memetic reproduction occurs when laws are passed banning henna; hopeful patrons and artists reject the law as being oppressive and unfair. This failure of replication also occurs when online western tourists scold ‘black henna’ artists. *Black henna meme organisms* replicated into the different networks and gradually evolved into irreconcilably opposing *truthy memes*.¹⁰⁷⁰



Distance Decay in Memetic Reproduction Vigor

Figure 62: Diagram of proximity affecting memetic reproduction: distance from a contact diminishes memetic replication and may facilitate memetic evolutionary drift.

All memes replicate most vigorously from first-hand experience. First-hand experience is more enriched and direct mimesis has always worked to our evolutionary advantage. Memes replicate well through celebrity, as people will often imitate the person they believe is dominant in a group. If a person sees a line for clients getting ‘black henna’ and has seen celebrities with ‘black henna,’ the person is unlikely to be persuaded by a distant voice that ‘black henna’ is hazardous.¹⁰⁷¹ A meme will replicate within a network environment before it will replicate from

a distance: there is distance decay in memetic reproduction. *Black henna warning meme organisms* do not replicate as well through authority particularly when people resist or distrust authority, or if authority does not appear to be enforced. A law forbidding ‘black henna’ or a doctor’s *black henna warning meme organism* seems to elicit defiance more often than cooperation.¹⁰⁷²

Global Henna Memetic Replication

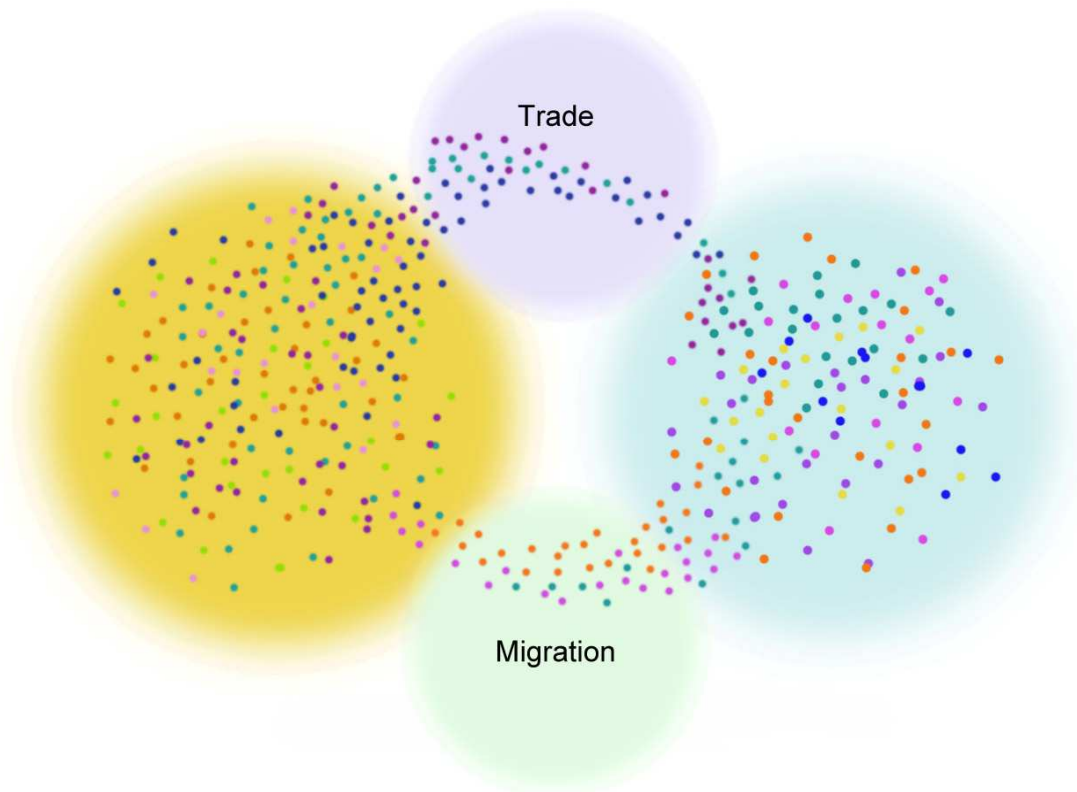
Memes may replicate beyond local networks through trade and may become global. Artifacts such as products and their merchandising carry memes and memes can replicate from artifacts to people’s minds. When products are marketed in new countries, memes replicate into the consumers. It is not unusual for the meme organisms replicated from a product in one country to be different from the meme organisms replicated in another country. When memes cross boundaries through trade the meme organisms will evolve to best suit the new network environment. *Henna meme organisms* replicated beyond their indigenous network boundaries when trade carried henna out of its growing zone. The henna praxis memes did not replicate with the henna memes unless a person who was familiar with the craft traveled out of the growing zone with henna. Since the trade networks were largely dominated by males and henna was a women’s household craft, henna products and their attendant memes did not move out of tropical semi-arid zone as quickly products with higher profit margins and greater potential use such as sugar, oranges, and incense.

Memes may replicate globally through electronic media very quickly. The *black henna warning meme organism* replicated globally in the late 1990’s very quickly, accelerated by celebrity and

globalized trade and facilitated by the rapidly increasing home PC market.¹⁰⁷³ In-person praxis could not instantly globalize but online English language discussions could carry the part of henna that could be communicated initially through text and later through images and video. Increased online commerce facilitated henna globalization in the late 1990's; henna sellers could communicate with henna buyers across the globe.

Memes may replicate globally through migration. People carry memes from one location to another location. A person who has recently migrated may carry memes very near to the home country memes, particularly if the maintenance of those memes is important to a sense of identity. A person who has lived for a while in a new location may have some evolved memes, and others may remain as they were; it may be important in some situations to display evolved memes to display integration, and it may be important in other situations to display original forms of memes to display authenticity. The memes in the second generation migrant will be further evolved if that person has had considerable contact with the new social networks. Meme organisms will replicate from the new environment and compete with previous memes.

In the case of *black henna meme organisms*, the memetic replications, evolutions, fossilizations, and extinctions were very rapid during the late twentieth and early twenty-first centuries. Some people who migrated from henna-using cultures ceased to use henna if they felt it hindered their access to the new cultural group. Some people continued to use henna and insisted on doing it just as their ancestors had done, when they felt it would preserve their culture and enhance their status of ethnicity and authenticity in their migrant group. Some people used henna in different ways, more stylish and accommodative to their new circumstances. *Henna meme organisms* also replicated from migrants to people in their new culture. *Henna meme organisms* replication, evolution, or extinction depended on the new country's relationship to their migrant population.



Meme Flow Through Trade, Migration, and Communication

Figure 63: Diagram of globalizing memetic replication through trade, migration, and communication

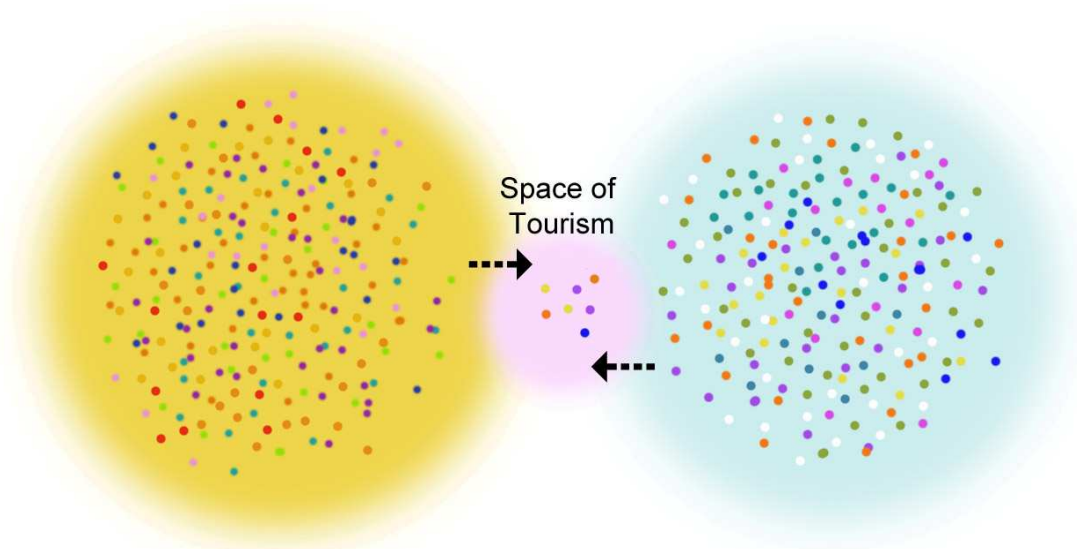
The Internet changed the potential and nature of memetic replication. Memes flowed globally, rapidly, prolifically, but unevenly, because Internet connectivity tended to overlay colonial-based spaces of development.¹⁰⁷⁴ Many henna using cultures did not have widespread connectivity in the late 1990's so some *henna meme organisms* did not replicate as easily as the *henna meme organisms* from more connected countries. Some governments firewalled their communication systems. Some infrastructures had less developed communications networks. Language and script barriers also slowed memetic reproduction through the Internet. Women's *henna meme*

organisms from Libya, Afghanistan, the Arabian Peninsula, Sudan, Somalia, had limited means of replicating online.¹⁰⁷⁵ Indian women's *henna meme organisms* had better potential to replicate online to people on the English-speaking web. Indian *henna commercial and merchandising meme organisms* had a better chance of replicating online because English was a common language used for business communications. Indian corporations were more likely to have Internet access than Indian households.

As bandwidth and speed increase, *henna meme organisms* can replicate globally with greater complexity through the Internet each year. With the proliferation of cell phone video cameras, videos are easily uploaded live from a family 'Night of the Henna,' accessible to any other person who can access the web.

Online memes are limited by technologies. Touch, taste, and smell cannot be converted to a digital stream, and a camera only shows one view at a time. The *henna meme organism* inhabiting a person's mind is a larger, more complex meme organism than can be transmitted in a digital stream, though the recipient of digitized *henna meme organism* is unaware of that has gone missing. The missing pieces will be reconstructed from the recipient's memplex. The received *henna meme organism* may be considerably different from what it was before transmission. Western henna, learned through proxies, cannot help but be different from village henna.

Memetic Replication in the Third Space of Tourism



Meme Flow Between Donor and Host Cultures and the Third Space of Tourism

Figure 64: Diagram of memetic flow between donor and host in the specialized third space group of cultural understandings, co-constructed by both donor expectations of host culture and host ability to provide the culture in a consumable package.

Memes replicate in the third space of tourism. People travel from a donor country with the anticipation of acquiring the memes of the host country. Some travelers prefer a high level of predictability and similarity to their own memes; other travelers seek authenticity and are open to surprise. Both anticipate returning home having acquired new memes from their travel experience and the souvenirs that are artifacts of those memes. The host country constructs a third space where their memes may be offered to and consumed by the visitors. The memes do not exist in the third space as they actually exist in the host country; they are essentialized

memes negotiated between the host and donor as exemplify the travelers' expectations of the culture. Visitors do not continue their vacation behavior when they have left the third space if the exotic memes are not acceptable in their home country. They returned to their disciplined, industrialized bodies and habits. With 'black henna,' travelers purchased the transgressive experience of wearing an exotic tattoo as a part of the stellular of transgressive, socially inverting, or carnivalizing behaviors in the third space of tourism. 'Black henna' reproduced the meme that exotic, non-industrialized bodies have bold tattoos. The 'black henna' transgressed the meme that bold tattoos that are unacceptable on the disciplined and normalized bodies of the industrialized work force, the disciplining industries that provide the income for people to have a week's vacation at the beach. The tourists expected the transgressive tattoo to disappear when they returned home to their jobs. The 'black henna' tattoos were a lucrative souvenir that was very easy to produce at a profit. Artists working in the third space of tourism assumed that the 'black henna' would disappear, and that the exchange would be to everyone's benefit.

Global Distribution Pathways of PPD, Warnings, and the Deniability of "Use Only as Directed"

PPD dye is understood at the industrial level to be highly sensitizing, and those sensitizations are life long and can be life threatening. The patent holder for PPD distances itself from any responsibility for 'black henna' injuries, "DuPont does not recommend and will not knowingly offer or sell p-phenylenediamine (PPD) for uses involving prolonged skin contact. Such uses may involve, but are not limited to, products formulated with henna for tattoo applications or other skin coloration effects. This use of PPD in prolonged skin contact application has the

potential to induce allergic skin reactions in sensitive individuals.” DuPont is well aware that people use their product for ‘black henna’ and that it harms people, “Persons proposing to use PPD in any formulation involving any more than incidental skin contact must rely on their own medical and legal judgment without any representation on our part. They must accept full responsibility for the safety and effectiveness of their formulations.”¹⁰⁷⁶

There may be warnings in industrial worker training, in OSHA¹⁰⁷⁷ and MSDS documents, and training, or protective clothing required in the workplaces where PPD is in the environment. The *PPD warning memes* are imperfectly communicated at the mid-level distribution point.

Warnings are diminished to fine print at the retail level point, and may be misleading; Bigen lists PPD levels at 2.3% in dilution without specifying the percentage of dilution; Bigen powder is over 12%, a level illegal in the USA and EU.

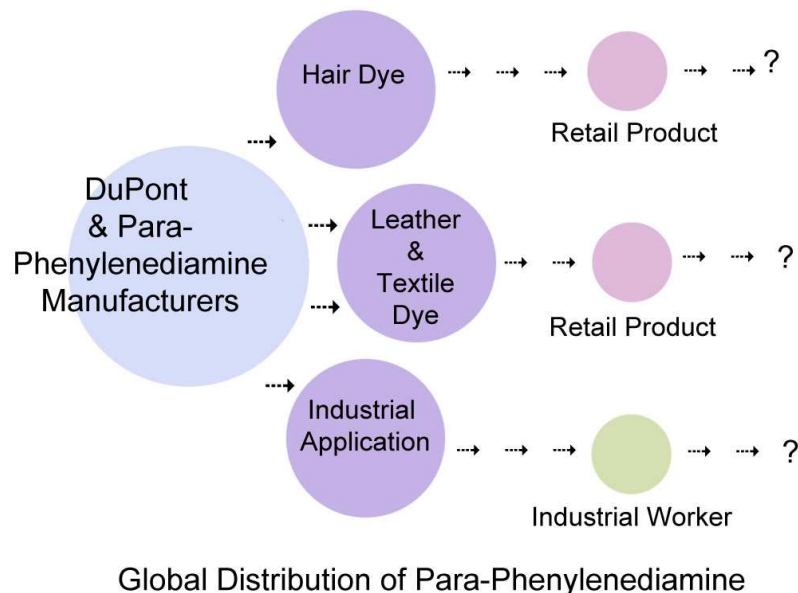
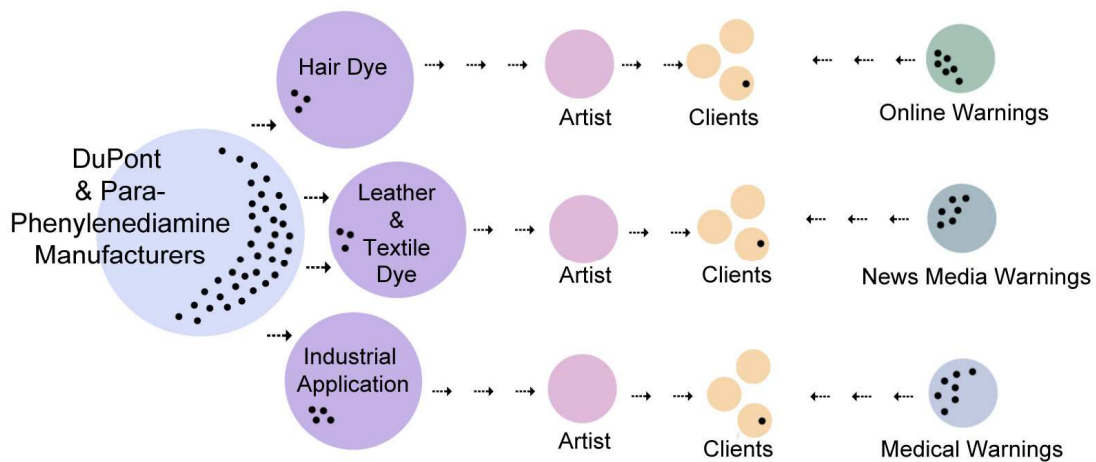


Figure 65: Diagram of the replication through global pathways of PPD, and the diminishing transmission of corporate warnings and responsibility at the end user level.

One well-designed study with detailed exposure assessment observed associations between personal hair dye use and non-Hodgkin's lymphoma, multiple myeloma, acute leukemia, and bladder cancer,¹⁰⁷⁸ but other studies have been inconclusive. The problem of para-phenylenediamine sensitization is certain and life-long. PPD's dangerousness is understood by many people who use it for murder, or ingest it for suicide in South Asia and Africa.¹⁰⁷⁹



Replication of Para-Phenylenediamine Warnings Through Information Pathways

Figure 66: Diagram of distance decay in the replication of PPD warning memes through production, consumption, and end user spaces: meme integrity fades with each replication. Warnings are more likely to reach the client after the event when they become concerned about the allergic reaction.

There is nothing to prevent misuse or misdirection of PPD-containing products, and no way for a consumer to estimate dangerousness if the product has no indication of PPD percentage. There is no PPD percentage available for henna stone when solid chunks of PPD are transferred from industrial use to artist's use. Few hair dye products list the PPD percentage in their product.

Sales of these items are unregulated. Once the PPD product is separated from warnings, neither artist nor client has information on the dangerousness of the skin paint and neither can make an informed judgment about whether not the health risk is acceptable.

The Replication and Evolution of *Henna Meme Organisms*

Memes compete more successfully for the limited space in people’s minds when they carry an array of attributes. These attributes help memes adapt into memeplexes as they may mirror meme organisms already existing in people’s minds.

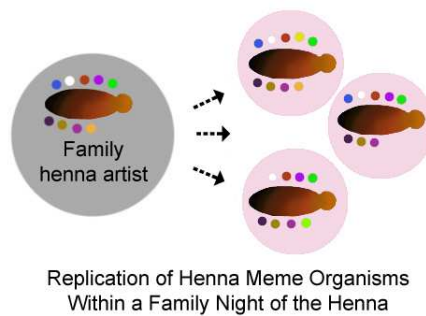


Figure 67: Diagram of the replication of *henna meme organisms* and praxis from a mother to daughters through family celebrations. This replication is infused with vivid emotions and memories. People who have experienced this kind of replication may regard other kinds of replication as inauthentic or inferior.¹⁰⁸⁰

The *henna meme organism* is replicated in traditional henna-using cultural areas among female kin and friends during household celebrations such as weddings, holidays and Eids. This mimesis is occurs on many levels: touch, sight, sound, smell, and motion memes replicate and

are emotionally charged, so remain vivid in memory. This complex group of memes is reinforced through repetition of henna events during family weddings and holidays. When henna is learned by direct one-to-one imitation and horizontal replication in place the meme is replicated with full complexity of associated behaviors and concepts. These henna memes may be imitated imperfectly and they may evolve but respect for tradition may make that evolution fairly gradual. The emotional intensity of these events may account for rejection of different, foreign methods of learning as being inauthentic and unwelcome.¹⁰⁸¹ Other people convinced that the understanding of henna in their network environment is equally *truthy*.¹⁰⁸² The *henna meme organisms* co-evolving antithetically in the divergent network environments and are mutually rejected.

Language, ontology, epistemology, praxis, resource material, communication and artifacts, or a physical barrier circumscribe a memetic group boundary.¹⁰⁸³ Where a culture has henna plants and there is a well-established henna praxis such as ‘the night of the henna,’ the henna meme will replicate through social networks to the boundary of the group. Children watched women apply henna at family celebrations, and imitated them. This intimate learning gave people an emotional tie to henna and a sense of cultural ownership and authenticity. This form of mimesis is particularly rich and nuanced, vivid in people’s experience. Some people felt a sense of betrayal and loss when people from outside their group did henna.

The *henna meme organism* replicated poorly or not at all beyond local group boundaries until it arrived through diaspora, books, images and access to product, and discussions in a mutually understandable language. When the *henna meme organism* replicated beyond its indigenous boundaries into North America and Europe without praxis and without access to product, alternative praxis and materials were substituted including PPD dye. This was reinforced as

‘traditional’ by indigenous use of PPD as body art in Northeast Africa, the Arabian Peninsula, and South Asia.

One flow of *henna meme organisms* into western industrialized nations was through text and photography associated with travel and trade. Books, periodicals, and photographs replicated meme organisms in a ‘one-to-many’ dispersion. In a ‘one-to-many’ dispersion, the meme organisms are identically seen though they may not be identically understood because of the limitations of text and photographs. They memes may settle unequally into their new environment environments. The replication of *henna meme organisms* through mass-distributed text or photography is rapid and widespread, but incomplete. Mass media distribution of a meme cannot provide the nuance and vivid experience of one-on-one memetic transmission. Because of this, the people who have received these memes are often considered to have inferior or inauthentic memes, rather than simply being recipients of a different replication.

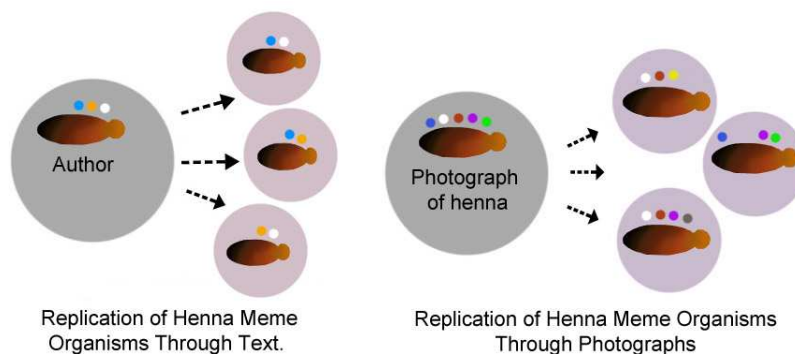


Figure 68: Diagram of the replication of *henna meme organism* replication through text and photographs: the replication may be imperfect compared to in-person mimesis. No sound, smell, or touch information replicates through a photograph. Motion may replicate through video images, but praxis is always incompletely replicated.

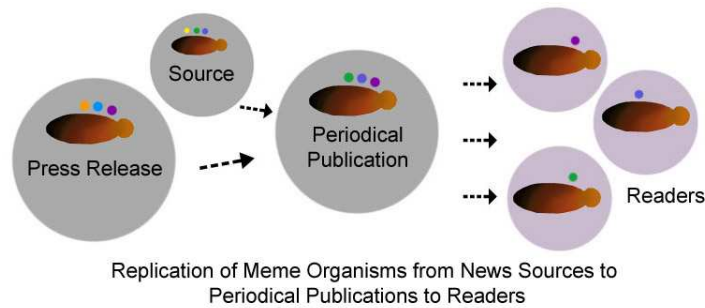


Figure 69: Diagram of the replication of a *black henna meme organism* replication through text and images in periodical publications. The sources and press releases may have rich, nuanced memes. The readers receive abbreviated and edited versions of the memes organisms.

Periodical publications replicate *henna meme organisms* but there are technical constraints inherent in replication processes. There may be many first-person sources of news memes. There may be press releases from agencies with a vested interest that are sources of memes. Writers and editors make economic and editorial choices about which aspects of henna memes are newsworthy. They construct a story that will disseminate the memes which will build readership and profits for the publication. These constraints and choices manipulate which aspects of memes are chosen for inclusion for publication, through which the memes are replicated. The readers receive memes abbreviated or adapted from the original sources; the readers read news stories as received truth, but the news stories never replicate the original meme organisms in their entirety

‘Black henna’ vendors made assumptions about who their clients were and how best to convince them to purchase ‘black henna’ products. They disseminated *black henna merchandising meme organisms* that promised the satisfaction of what they assumed to be their clients’ desires. These

memes addressed personal and social longings; fast, easy money with little effort, popularity, glamour, and connection with celebrity. In the case of several ‘black henna’ vendors that need was assumed to be a source of income with little investment or preparation, suitable for informal economies in the third space of tourism. ‘*Black henna*’ was well adapted to the economic niche. When consumers purchased a product they also emotionally invested in the memes associated with that product. These consumers were reluctant to betray that commitment when confronted with a *black henna warning meme organism*.¹⁰⁸⁴

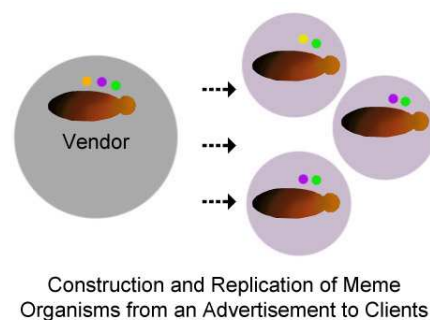


Figure 70: Diagram of the replication of vendors’ constructions of *black henna merchandising meme organisms* for the purpose of persuading people to purchase their merchandise.

Evolution of *Black Henna Meme Organisms* Online through Different Pathways

Publishing academic journal articles and medical articles requires a process of literature review, a hypothesis or case to be examined, methodology with independently verifiable results, and peer review with the intent of advancing previous understanding of the question or case. This process of memetic reproduction and evolution is slow because of the methodological research and review required and the time necessary for an article to come to publication and the memes may

have a limited audience, depending on the readership of the particular journal. The memes replicated by academic journals are accorded authority because of the critical research process. News periodicals and policy makers may replicate the academic and medical memes further based on their authority. When a social network adopts these memes, the results they pronounce become personally relevant and replicate through social networks.¹⁰⁸⁵

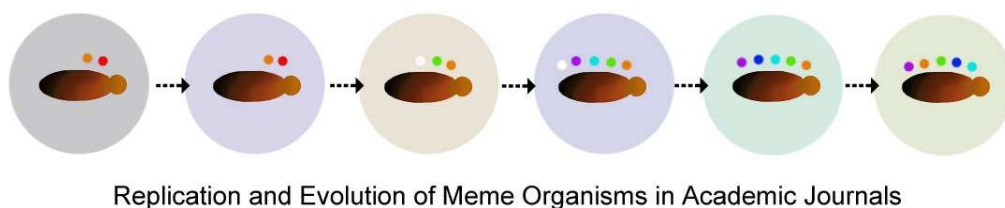


Figure 71: Diagram of the evolution of *black henna meme organisms* in academic and medical journal articles.

Medical journal network environments may evolve *black henna warning meme organisms*, newspaper articles or government agencies' network environments may replicate the warnings, but the *black henna warning meme organism* will have limited potential for replication to people whose network environment has memes evolved of fashionable black body art, black stains at family events, or profit and happy customers. The medical journals become silos of memetic evolution, but the memetic dispersion outside that silo is constrained by the boundaries of the network environment.

A static source of information such as an academic journal article, book, article in periodical publication, or webpage will disperse memes. The replication of the memes through a static source is contingent upon the kind of data that can be propagated through the source's structure,

and what minds are able to assemble from the end product.¹⁰⁸⁶ If a static source has text, that text will replicate the author's memes, but only those memes that the author places in the text. Readers who can receive the text will construct knowledge from what memes they have received. These will not be the total of the memes originally in the author's mind.

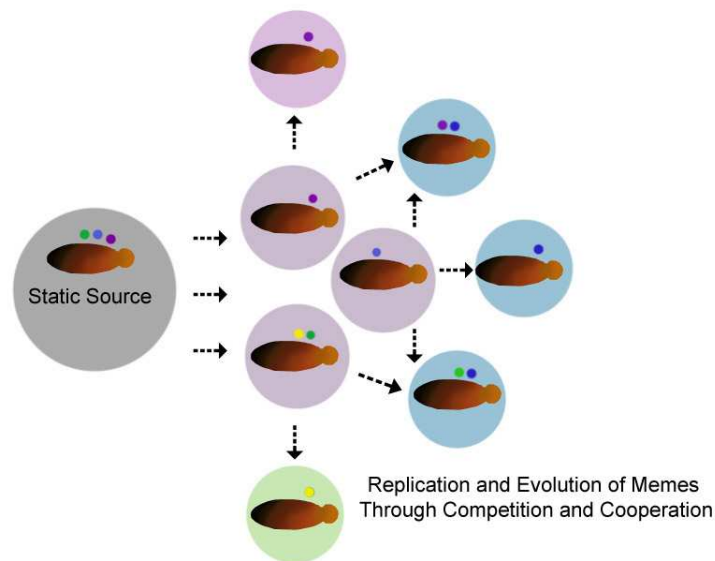


Figure 72: Diagram of the replication and evolution of *henna meme organisms* from a static source into a dynamic network environment.

Meme organisms have replicated through host networks since species capable of mimesis evolved. When host networks are tightly bounded, they become a network environment within which memes evolve, and through which memes replicate efficiently,¹⁰⁸⁷ just as a virus replicates through a tightly connected host population. Online social networks are the first group in which this evolution can be easily observed and documented; until social media proliferated, human discussion was ephemeral and meme organism evolution untraceable. The more frequently a

group interacts, and the more bounded the group, the greater the similarity of the memes. If a group does not interact consistently, and is non-cohesive, there may be greater individual variation in meme organisms as participants do not remain in the network environment long enough to participate in the replication/evolution process.

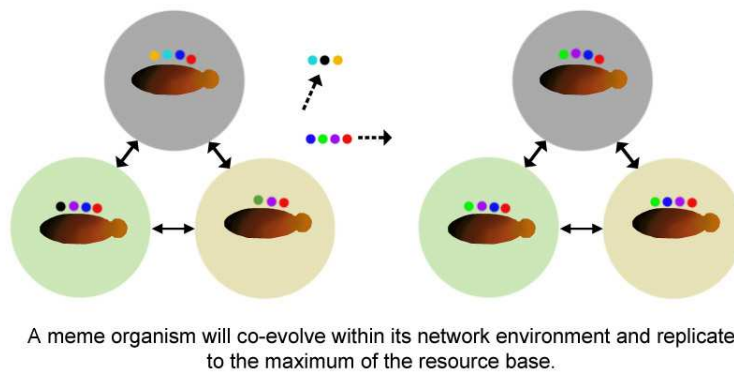


Figure 73: Diagram of the replication of *henna meme organism* evolution in a tightly bound network environment; some organism variants become extinct, while other variant organisms replicate until they have replicated to the boundaries of the group.

The cohesiveness of a network environment affects meme organism diversity within the environment. The Bali Travel Forum is discontinuous network, where people post a few questions and then do not return. *Black henna warning meme organisms* evolved slowly in this discontinuous environment, as different people were involved in discussions from vacation season to season, asking about ‘black henna.’ *Black henna warning meme organisms* replicated into the environment from other sources, such as news articles and other websites such as *hennapage.com*. In the Henna Page Discussion Forum *black henna warning meme organisms* evolved rapidly and replicated thoroughly in an interactive, cohesive online community,

evolving to a stable *black henna warning meme organism* relatively quickly. The Trip Advisor Forums, a cluster of non-cohesive interactive groups bounded by destinations did not evolve *black henna warning meme organisms*. Instead, rather they replicated *Black henna warning meme organisms* from multiple sources, often privileging sources considered authoritative, such as news articles and the hennapage.com ‘black henna’ warnings.

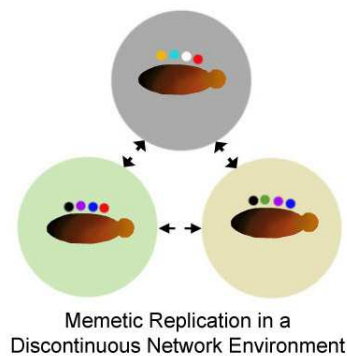


Figure 74: Diagram of the replication of *henna meme organisms* in a tightly bound network with consistent memes and meme organisms in a discontinuous network environment with diverse memes.

In 2014, blogs are increasing in potential volume as *black henna meme organism* dispersers, because of the advertising they carry. A blog may carry advertising, which pays the site owner per ‘hit.’ When the writer receives advertising revenue, the author is compensated for writing on topics that attract readership. As the posts are shared through other social media, the blog’s Alexa ranking¹⁰⁸⁸ goes up, the writer can demand more for advertising placement, and the memes replication further accelerate and disperse. The memes do not have to be factually correct to be popular, widespread, or influential, they simply have to replicate. Widely replicated

memes may gain a potential for ‘truthiness’ in network environments. Some blogs have comment scripts, but these typically replicate the meme rather than evolving it. Blogs have featured both ‘black henna’ injuries and ‘black henna’ as an enjoyable souvenir. The author’s *henna meme organisms* were replicated to readers through blog posts, but do not seem to have replicated beyond the individual blogs’ readerships.

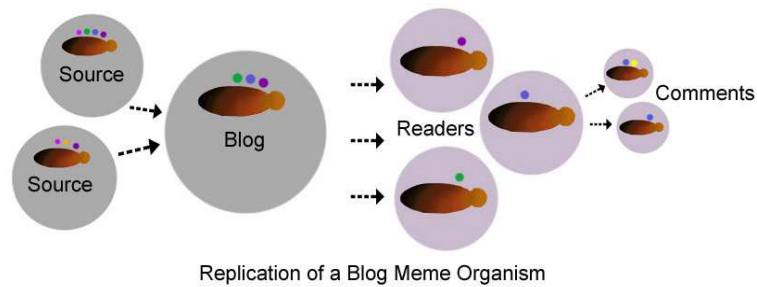


Figure 75: Diagram of *henna meme organism* flow through online blogs: the writer may construct information from one or more sources, and these are dispensed to readers through text and images. The reader may have the opportunity to comment and discuss a blog post.

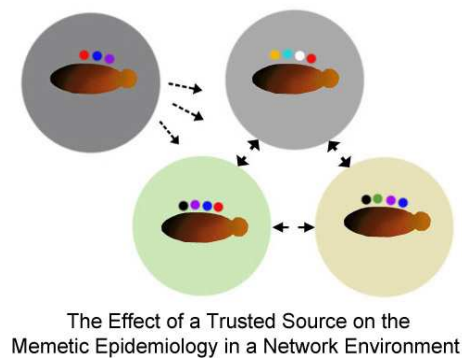


Figure 76: Diagram of the effect of a trusted source on replication of *black henna meme organisms* in a group

When people had an itching, blistering reaction to ‘black henna,’ they searched for a trusted source of information. As the surge of ‘black henna’ in areas of tourism roughly coincided with the popularization of personal computers search engines, an online search was frequently the first place people looked. Google searches, through their mission statement of, “... organize the world's information and make it universally accessible and useful,” had the effect of elevating the webpages most frequently accessed for information in their search engines.

Because the Internet functions as a scale-free network, and Google’s rankings are based on the hubs in the network, higher ranking served to increase a pages’ likelihood of being accessed and further dispersing memes, and becoming a more connected hub in the scale free network.

Gradually, the most commonly accessed pages on ‘black henna’ became the greatest dispersers of *black henna meme organisms*. The memes were in turn further replicated through blogs, forums, and static websites. The Henna Page ‘Black Henna’ Warnings pages have been at the top of google ‘black henna’ searches since they were written, and are followed by news media, Wikipedia, and FDA warnings. Among these highly ranked pages, the *black henna meme organisms* have evolved to a consistent and highly stable state.

Google ranking is often conflated with authority, and the ‘black henna’ pages at the top of Google rankings will contain the most replicated *black henna meme organisms* through the Internet spaces of Google influence, with evolutions in different network environments. Of the first one hundred returns on a Google query of ‘black henna’ on November 17, 2013, seventy-seven contain fairly consistent variants of *black henna warning meme organisms*. Eight pages offer PPD ‘black henna’ hair dye for sale. Seven pages offer indigo, termed black henna, with instructions or products used to dye hair black. Four returns were images of artists who use

‘black henna;’ one of these pages was a Tumblr index of ‘black henna,’ a social network group of artists working in ‘black henna.’ This social network of ‘black henna’ artists appeared to be people from North and East Africa, the Arabian Peninsula, South and South East Asia, and people in diaspora wearing hijab. Three pages feature the pop music group “Black Henna.” One page listed black henna patterned iPhone covers. The memetic replication of *black henna warning meme organisms* online is prolific. There are other network environments where the *black henna meme organism* has evolved very differently.

**An Idea Ruptures from a Discursive Field and Becomes Knowledge: a Meme Organism
Replicates into a Complex Network Environment**

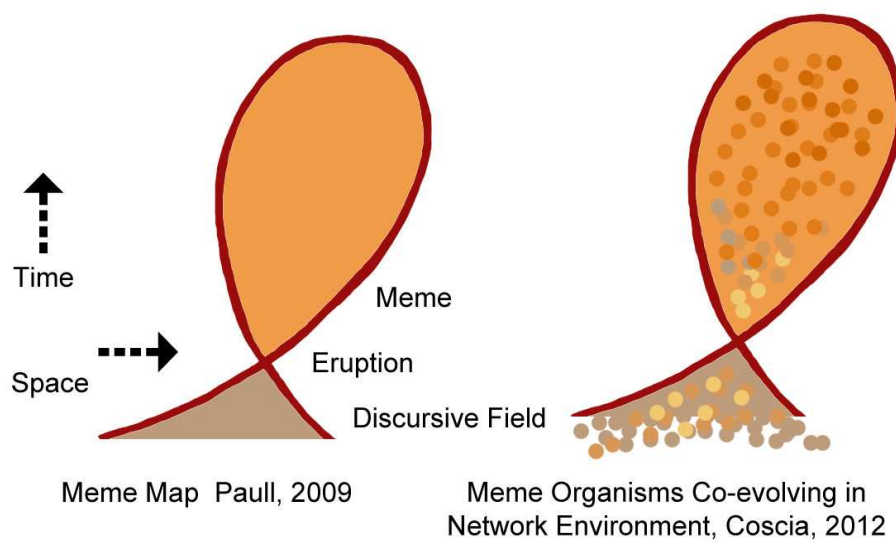


Figure 77: Paull’s meme map depicts a field from which a meme emerges, mapped in time and space. This diagram shows how Coscia’s adaptations demonstrate meme organisms co-evolving with a new network environment may be similarly depicted.

According to Paull, there is a field from which a meme emerges, which can be mapped in time and space.¹⁰⁸⁹ This concept is very similar concept to Foucault's archeology of knowledge,¹⁰⁹⁰ but with a geographic and memetic application. Coscia adds to this concept by demonstrating that meme organisms co-evolve with the new environment.¹⁰⁹¹

A meme does not emerge from a vacuum; it emerges from a field, a previously existing memeplex in an ideosphere. The movement of people, resources, artifacts, or innovations may cause a meme's emergence into a new network environment; minds and artifacts are sources of memes, and they migrate from one geographic and cultural space to another.

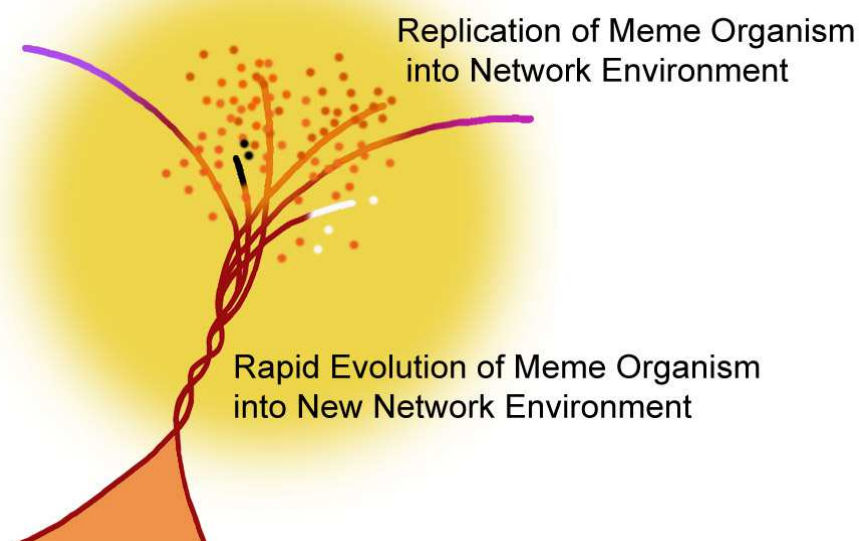


Figure 78: Diagram adapted from Paull's meme map demonstrating Coscia's meme organism emerging and replicating into a new network environment.

Paull theorized a meme as having a moment of eruption at a single point in time and geographic space, and expanding from that point. Coscia developed this idea further through complex network theory, and demonstrated it by following online replications of meme organisms in social media. According to Coscia, after the moment a new meme enters a network environment, there may follow a period of gradual dispersion and rapid memetic evolution. In the new network environment, the meme organism will compete or cooperate with other memes to achieve the fittest form for replication into the environment. The environment, in turn, evolves with the meme. Some aspects of the meme organism may be rejected, others embraced, and others may evolve. There may be a short or long interval before the meme stabilizes, depending on competition or collaboration with other memes, after which it will replicate to the maximum of the environment's ability to support it.

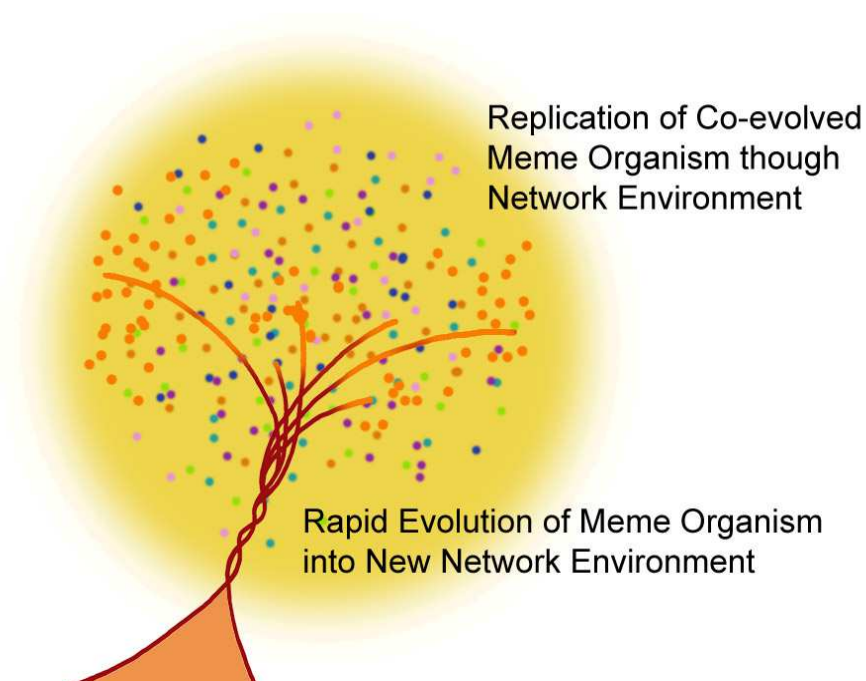
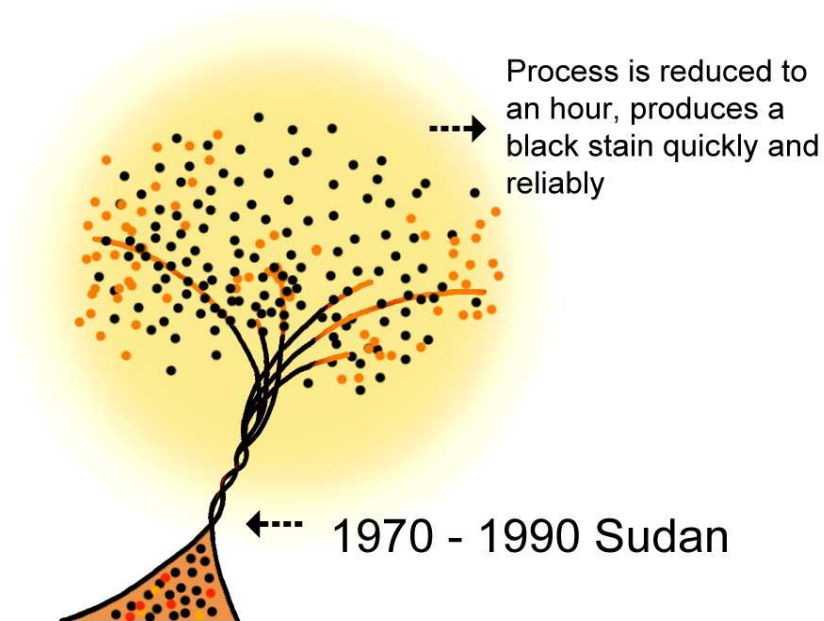


Figure 79: Diagram showing the meme organism co-evolving in the new network environment and replicating to the network environment boundaries.

The *black henna meme organism* had a period evolution in each environment where it replicated, and in each environment. The *black henna meme organism* evolved differently, cooperating, competing, and co-evolving with other memes in network environments, becoming divergent and often oppositional *black henna meme organisms*. In each case, the *black henna meme organism* eventually stabilized and became ‘truthy’ when the network environment simultaneously produced and consumed the meme.

The Points of Rapid *Black Henna Meme Organism* Co-evolution in Different Network Environments, and the Different Truths Produced

I have attempted to find the points of emergence and the network environments from which *black henna meme organisms* emerged, the periods of rapid co-evolution, and the newly stabilized meme organisms co-evolved within their new network environments. If these emergences had occurred in places and times where the participants were in online social networks, it would be possible to trace the flow of memes precisely, as do floatingsheep.org research projects in University of Kentucky and University of Oxford, and Truthy Information diffusion research at Indiana University.¹⁰⁹² The technologies for studying the *black henna meme organism*’s emergence into global network environments did not exist during the initial surge of ‘black henna’ popularity, but enough trace of the mimesis remains to make some observations. The globalization of PPD skin painting occurred in semi-detached network environments; both commonalities and differences in *black henna meme organisms* evolved.



Traditional several day process of bridal blackened henna

Evolution of Black Henna (Piko) Meme Organism
into Sudanese Network Environment

Figure 80: Diagram of the emergence and evolution of painting skin with PPD in Sudan within the context of traditional blackened bridal henna

Sudanese bridal henna traditions favored henna patterns blackened with time, heat, alkali, and multiple applications, a process requiring several days. These traditions extended beyond Sudan to related groups in the Horn of Africa.¹⁰⁹³ These patterns could be created in an hour with PPD. The ease and grace PPD brought to bridal henna patterning must have been a welcome modern adaptation. This chemical technique was gradually replicated among cultural traditions in Ethiopia, Egypt, and Somalia by the 1990s.¹⁰⁹⁴ The fast, facile medium allowed artists greater expressiveness in body art, and a modern style of ‘black henna’ patterning evolved. Sudanese

henna artists were sought after for their ‘black henna’ skill for the weddings of social elites. When Setona went to Egypt to pursue a pop singing career, she was valued first for her black henna work.¹⁰⁹⁵ As a popular entertainer and bridal artist, working events and weddings of the wealthy and powerful, she strongly influenced the fashion for ‘black henna’ in the region, whereas local, household henna artists functioned more as points in a random network, each having relatively limited influence on the larger social network.

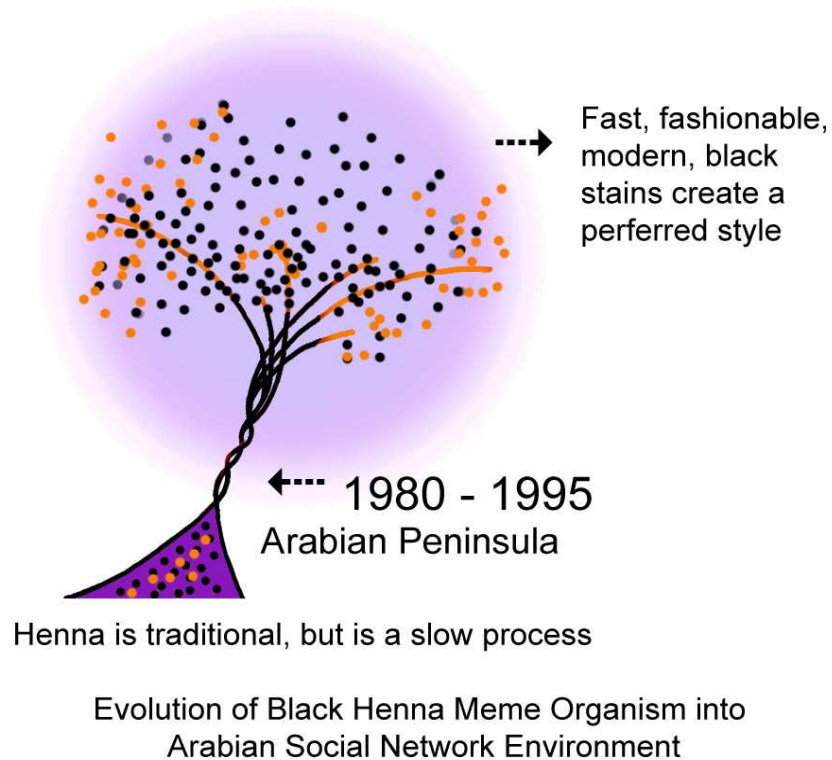


Figure 81: Diagram of the *black henna meme organism* replicating and evolving in the Arabian Peninsula within the contexts of traditional and modern henna styles.

The substitution of PPD for indigenous blackened henna traditions in Sudan and East Africa may have begun in the 1970's based on the estimated dates in early injury reports beginning in 1984.¹⁰⁹⁶ This 'black henna' was replicated into Ethiopia, Egypt, Somalia, and the third spaces of tourism in east and northeast Africa by the 1990's.

Women in the Arabian Peninsula had continuous bridal henna tradition since the pre-Islamic period. The technique of painting skin with PPD may have migrated from Sudan with female domestic workers,¹⁰⁹⁷ or it may have been independently been discovered by a stylist working with high PPD content hair dye. The female domestic migrant labor force may also have replicated the desire for the 'black henna' technique across their donor countries, Pakistan, India, Malaysia and the Philippines. It is probable that there were multiple origins for 'black henna' body art technique as PPD is readily available.

Memetic replication and evolution of the fashionable *black outline henna meme organism* is more certain and can now be tracked by Facebook 'likes' when a popular artist shows a new design. These 'likes' follow socially connected network environments across cultural groups and may be challenged by people in *black henna warming meme organism* network environments. Facebook's script facilitates the construction of network environments through 'friending,' 'unfriending, and deletion of posts. This structure maintains a separation of the network environments and enhances the 'echo chamber' effect within them.

Fashion, and the desire for fast, stylish, black markings were a desirable alternative to henna by 1993 prior the near-fatal application of para-phenylenediamine to a woman's feet.¹⁰⁹⁸ Black henna is presently offered through the tourist industry on the Arabian peninsula, from the desert

treks¹⁰⁹⁹ to the most expensive hotels and salons,¹¹⁰⁰ despite health ministry attempts to ban the chemical.^{1101, 1102}

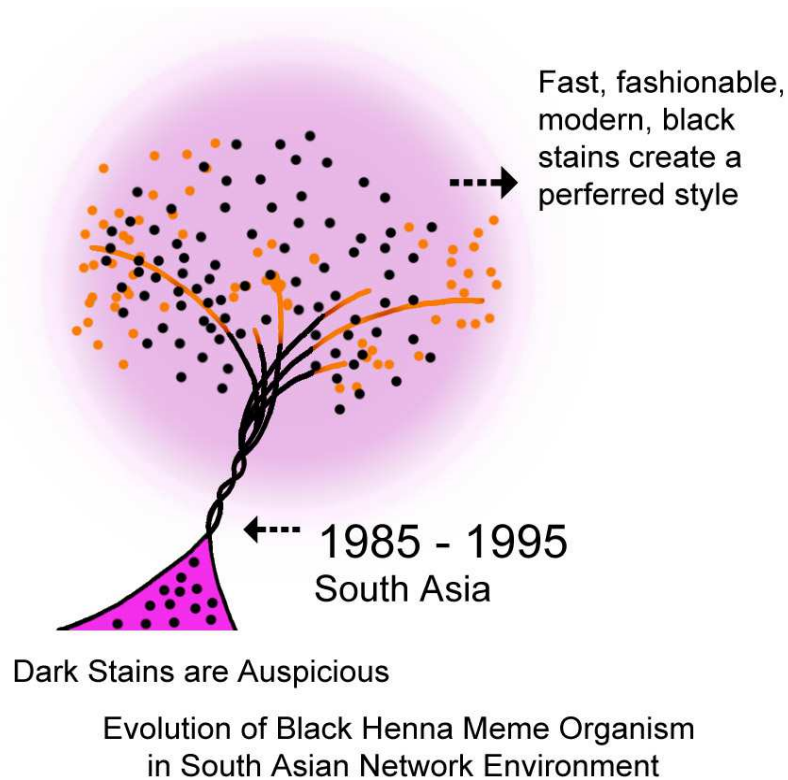


Figure 82: Diagram of *black henna meme organism* replicating and evolving in South Asia within the context of auspicious darkened henna and modern style.

Dark henna stains have been considered auspicious in many groups. In South Asia, the darker stains may be interpreted as predicting that in-laws will love the young daughter-in-law, or that the groom will love his wife. Since henna stains almost inevitably darken, this may be a bit of folklore meant to soothe anxieties rather than actually foretell an outcome. South Asian women desired darker stains as harbingers of domestic tranquility.

If Indian producers added PPD to henna hair dye by the 1970's, that would have made an attractive modern product considerably more convenient than the two-step henna and indigo process to dye hair black. If there was no declaration of ingredients required by governmental or industrial regulation, women would have used them on skin without question. When women presented to a clinic with unexpected blistering, they simply described the injurious product as 'henna.' Gupta's article showed injuries consistent with PPD skin painting,¹¹⁰³ as did Ningam and Saxena's;¹¹⁰⁴ The physicians may not have known that PPD was added to henna because henna and hair dye praxis was a gendered and to some extent caste-based knowledge, opaque to males and other people who had no direct experience with mixing and application.¹¹⁰⁵

Upwardly mobile middle class women with jobs sought faster, more modern henna processes, more complex, stylish patterns, and the more desirable black stains.¹¹⁰⁶ Artists' secrecy about their mixtures was, and remains the cultural norm, as opposed to an industrialized western norm of ingredient declaration.¹¹⁰⁷ A largely unregulated henna industry grew to provide the women the adornment they desired. When a particularly high PPD 'black henna' paste flooded the markets before holidays, there was a local panic of women rushing to hospitals with blistering hands.¹¹⁰⁸ In the tourist industry 'black henna' replicated into the informal business sector on beaches such as the tourist haven, Goa.¹¹⁰⁹

The industrialized west did not have a henna tradition, but it did have tattoo traditions that emerged and mainstreamed in the 1990's through the modern primitive movement.¹¹¹⁰ The modern primitives rebelled against the industrialized society and its regime of indistinguishable unmarked bodies. They rejected the normalized body by modifying their skin in emulation of 'primitive' ritual, but an industrial income was more difficult to eschew. If the embodiment of resistance¹¹¹¹ could be temporary, the cooperative body could continue to earn income. By the

time that personal computers were proliferating and The Henna Page came online, a conflated meme of 'black henna' and tattooing was replicating rapidly.

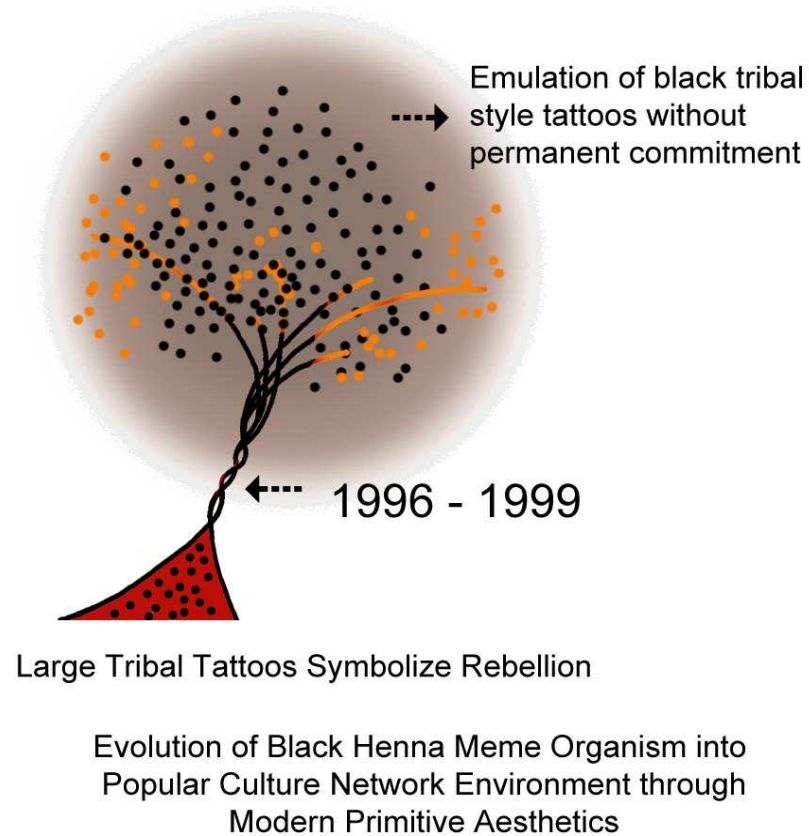


Figure 83: Diagram of the *black henna meme organism* replicating and evolving into western popular culture through the Modern Primitive movement

The numerous requests for 'black henna' as a moneymaking project outnumbered natural henna inquiries on The Henna page Discussion Forum between 1997 and 1999 even though the injuriousness of PPD was identified by late 1997. Modern primitive tribal patterns such as Kanji, and New Age imagery outnumbered traditional henna patterns in henna kits and artists'

pattern books.¹¹¹² The meme organism of embracing a primitive, hedonistic life with a black tribal temporary tattoo replicated easily in the third spaces of tourism where the normalized industrial bodies had accrued vacation time and money set aside for leisure.

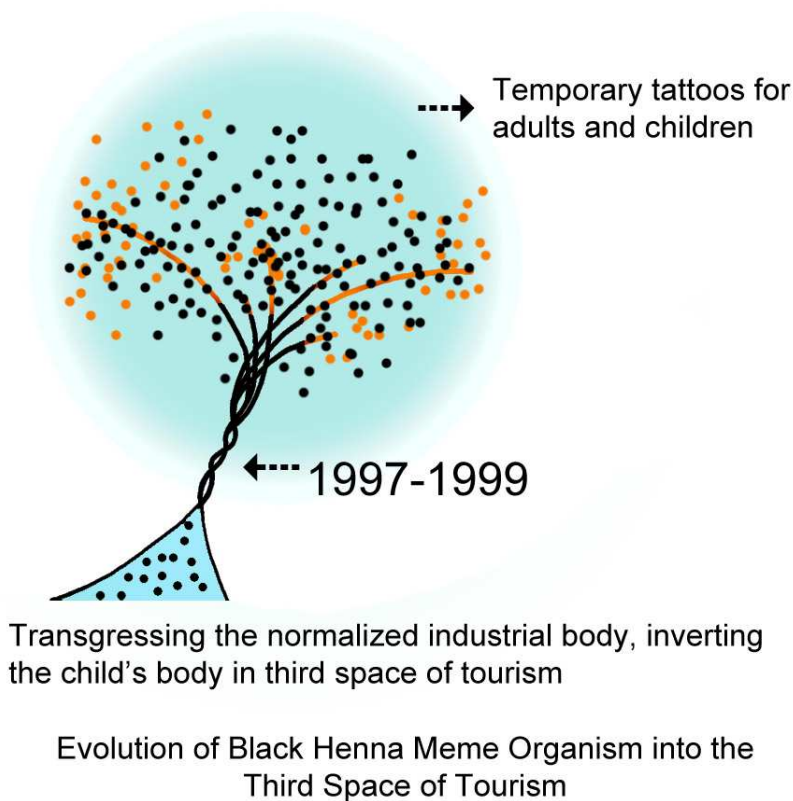


Figure 84: This is a diagram of the *black henna meme organism* replicating and evolving into the third spaces of tourism

A different *black henna meme organism* evolved among children in areas of tourism and 'black henna' had a different memetic pathway to children than other groups. Children were unlikely to have had a specific sense of rebellion against the industrialized employable body but they did enjoy rebelling against the rules of childhood, particularly the rule that tattoos are the marks of

adulthood and children are not allowed to have these marks of power and dangerousness. When a child could acquire a symbol of authority and power and do so without consequence, the child was delighted.¹¹¹³ For a child, the fundamental species urge to mimesis is extremely strong; children learn through mimesis. When a child saw a line of children waiting for 'black henna' and saw other children proudly wearing their tattoos, that child's will to acquire 'black henna' in imitation of their peers was usually indomitable.

'Black henna' was an ideal product in the third space of tourism. It was fast, reliable, and cheap; it exploited the western meme organisms of the exotic tribal body and the powerful rebellious adult body, and the marked sensual female body. The hypersensitivity reactions were unseen, delayed until the client had left the third space of tourism.

The Emergence of the PPD Identification and the *Black Henna Warning Meme* into Different Network Environments

As the *black henna meme organism* entered different network environments at different times and under different conditions, injuries followed. The PPD injuries presented identical symptoms no matter where or when they occurred. The understandings of these injuries and whether or not they posed a significant threat was framed within the memeplexes of the differing network environments' understandings of wellness. The understandings of the causative agent differed according to the local memeplex: the injuries were variously interpreted as being caused by the Evil Eye,¹¹¹⁴ skin lightness or darkness, dirtiness, poor regulation, petrol, cheapness, punishment for imperialist wickedness, or acidity. The recognition of PPD as the causative agent of 'black henna' injuries came at different times in different network environments.

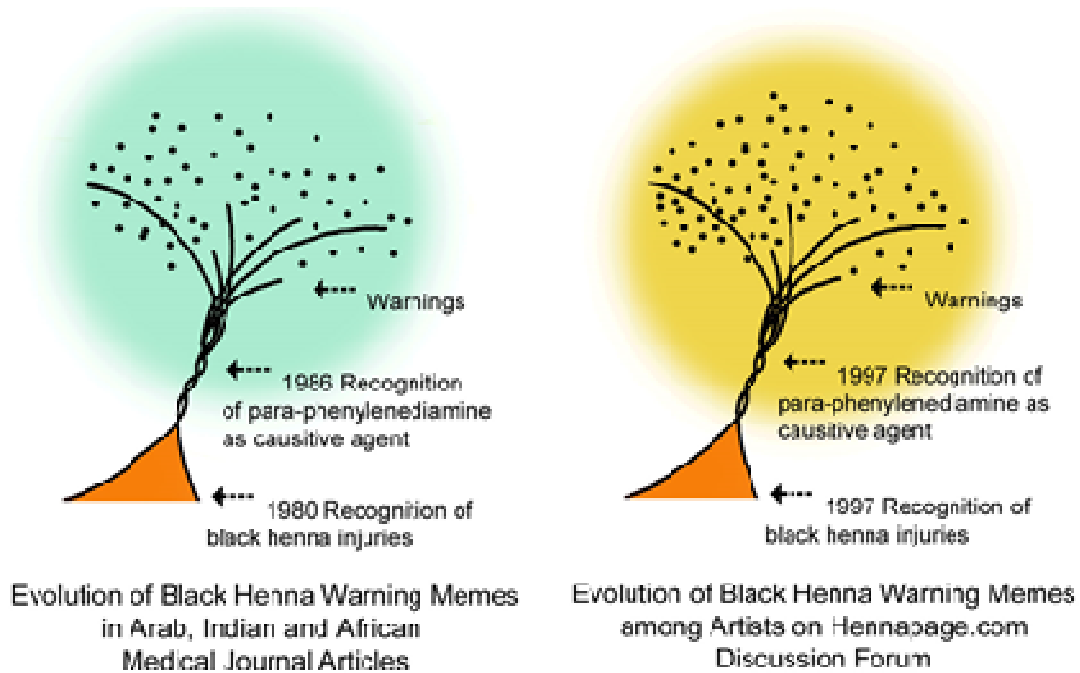


Figure 85: Diagrams of the evolution of *black henna warning meme organisms* in Arab, Indian and African medical journal articles compared to the diagram of the evolution of *black henna warning meme organisms* among henna artists on The Henna Page Discussion Forum.

Physicians living in areas where PPD was first substituted for slower, more complicated henna darkening techniques were the first to see injuries and the first to suggest that PPD was the cause of injuries. Their diagnosis of the causative agent was slowed by hampered by artists' traditional secrecy about their methods, the gendering of the technology, and lack of ingredient declaration in commercially prepared henna products. When they published their notes on these cases, the information was not widely dispersed into the industrialized western countries where the medical profession did come in contact with these articles. Medical journals and articles were not as widely available online in the early 1990's as they are now; they were physical, and access to

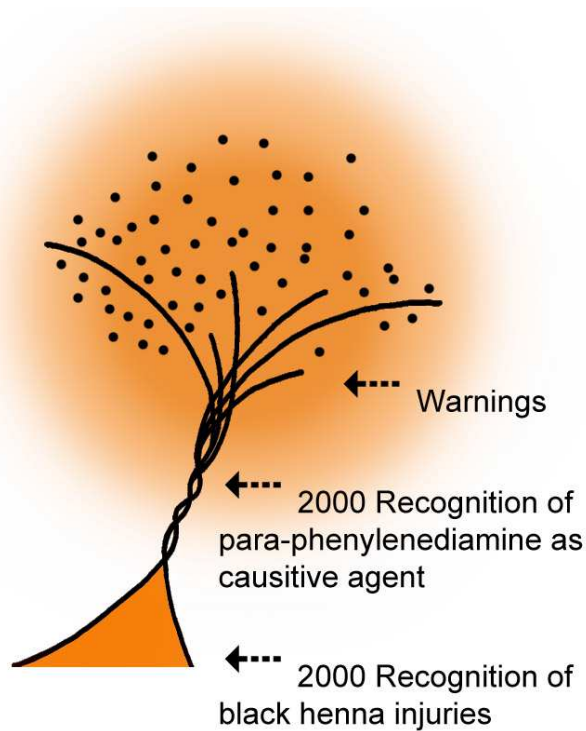
them was generally through subscription. The evolution of electronic academic journals has accelerated the speed and distance dispersion of research meme organisms.

The opening of The Henna Page Discussion Forum coincided with the surge of interest in 'black henna' in the west and questions about injuries appeared soon in the discussions. The forum was a tightly bound interactive group, with participants logging on several times a day; information accumulated and evolved quickly. One artist in Los Angeles knew that PPD was being added to henna, and another had access to medical journal articles on PPD sensitization. Henna artists were familiar with the praxis of henna, so identified the irregularities of black henna more quickly than non-specialists.

People in the west who were injured in areas of tourism presented to physicians at about the same time as they posted on The Henna Page Discussion Forum, but physicians were not henna specialists, did not have access to the paste that had injured their clients in distant spaces of tourism, and did not recognize that the injuries were inconsistent with henna. The *black henna PPD warning meme organism* took longer to evolve in medical journal articles but the process of clinical testing by physicians made the determination with greater certainty and authority than could be produced by henna artists.

The progression of the delayed hypersensitivity reaction to PPD takes place within a predictable time frame. A few rapid reactions may occur within hours but most reactions occur between four and fourteen days after skin painting and some may occur thirty days after exposure. In the third space of tourism, it is probably that the tourist will either have left the area before the hypersensitivity reaction occurs and unlikely that the tourist will be able to find and confront the artist with the reaction. Therefore, artists commonly claim that there has never been a problem with their 'black henna.' The injury presented in a time and place distant from the artist. The

black henna injury meme organisms were therefore minimized or absent entirely in the third space tourism network environment. The *black henna injury meme organisms* evolved in the donor country where the person went to a physician or a journalist. *Black henna injury meme organisms* replicated rapidly in donor country network environment.

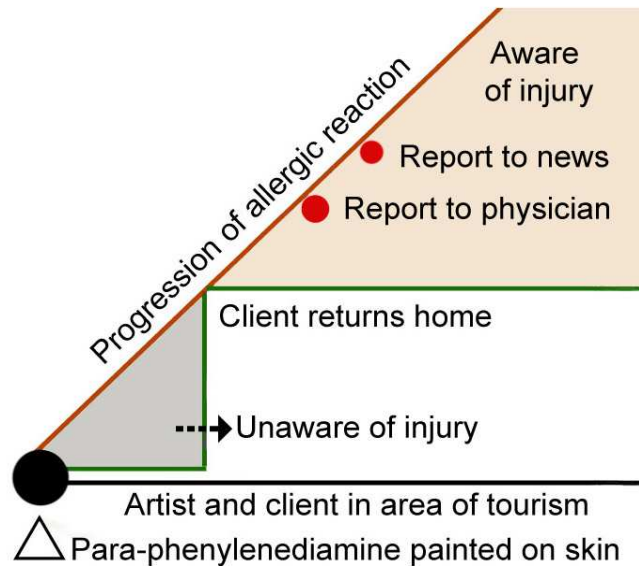


Evolution of Black Henna Warning Memes In English Language News Media

Figure 86: Diagram of the evolution of *black henna warning meme organisms* in English language news periodical publications

There is an increased risk of allergic reaction with each subsequent exposure to PPD, whether within cultural use or in an area of tourism. Based on the medical journal articles the likelihood of injury ranged between 15% and 60%, and that variation probably reflects natural sensitivity,

previous exposure to the chemical, age, and dose/time absorption of the chemical into the skin. Children were probably the most susceptible to injury, and evidenced the most severe sensitizations in subsequent exposures.



Time and Space of Delayed Hypersensitivity Reaction and Acute Sensitization

Figure 87: Diagram of the time and space of a delayed hypersensitivity reaction from acute sensitization from a 'black henna' acquired in the third spaces of tourism

A subsequent exposure to PPD from oxidative permanent hair dye years after a 'black henna' temporary tattoo received on a long-forgotten vacation may be a greater health threat. The extreme and increasing injuries presenting from hair dye have been the observable form of the epidemic of PPD sensitization. Physician's estimations of extreme sensitizations through 'black henna' range from 50% to 100% of original applications. The severe reactions to PPD following

sensitization through ‘black henna’ often require emergency admissions to hospitals; these reactions may be life-threatening or fatal.

The Seasonal Pulse of the *Black Henna Meme Organism*

Black henna meme organisms in spaces of tourism have a predictable annual pulse of replication, demonstrated in Google Trends analysis. As the warm season peaks, skin is bared and then ornamented. The greatest activity in ‘black henna’ searches is from North America, the UK, and India.

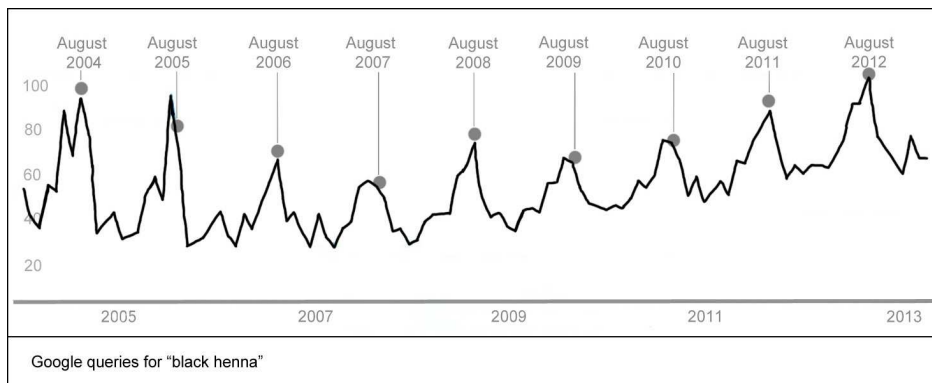


Figure 88: Graph of ‘black henna’ queries adapted from Google Trends.¹¹¹⁵ 100 on the y-axis represent the maximum number of queries, not the actual number of queries. The x axis represents January 2004 to March 2013. All subsequent graphs in this section have the same x and y axis and time frame.

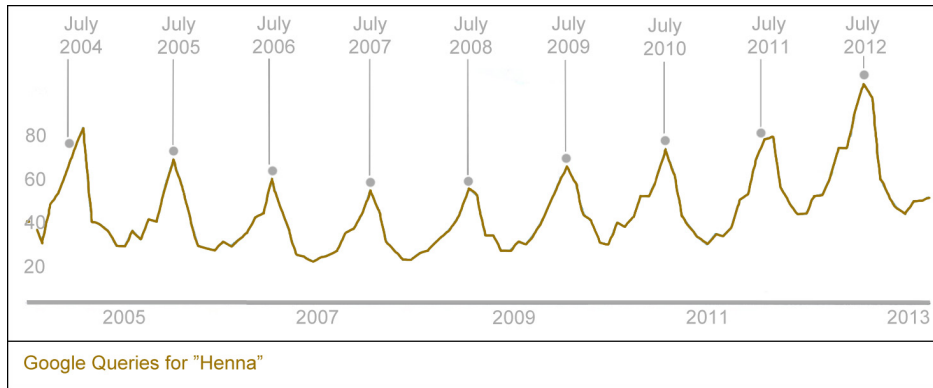


Figure 89: Graph of the memetic pulse of Google queries for 'henna tattoo' showing peaks each year in July or early August.¹¹¹⁶

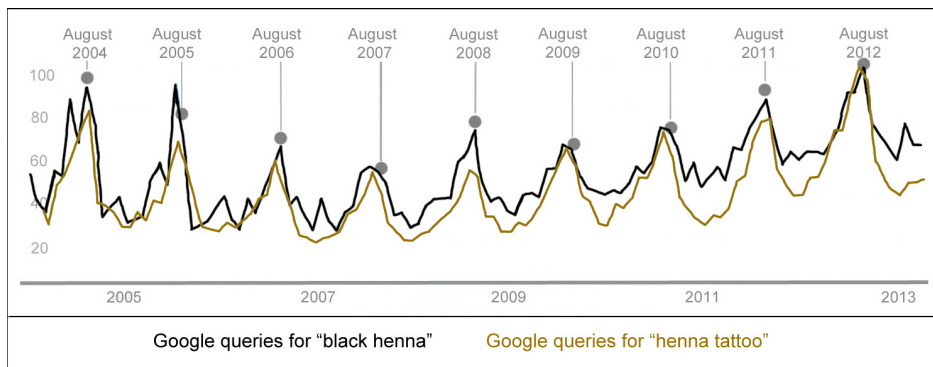


Figure 90: Graph comparing Google queries for 'black henna' and 'henna tattoo' adapted from Google Trends. The overlay of these two trends shows the coincidence of a summer peak for both henna and 'black henna' but show a sharper peak for 'black henna' during the spring break period each year.

The highest peak for 'black henna' queries each year is in July and August, about the time one would expect that people are either having a 'black henna' temporary tattoo on vacation, or are beginning to wonder why it has begun to itch. There is a shorter peak around spring vacation,

and a lower one in January. The pulse of ‘black henna’ queries goes quiet during every November and December.

The query for “henna” had the highest returns from Finland, where Henna is a common female name.¹¹¹⁷ “Henna tattoo” refocused the query on body art. The Philippines returned the highest number of queries for “henna tattoo” on google on March 21, 2013.¹¹¹⁸

Plotting ‘henna tattoo’ over ‘black henna’ illuminates some subtleties in the ‘black henna’ market. *Black henna meme organism* activity increases at more than one point each year. There is a peak roughly coinciding with spring break, a week in late March or early April when schools take a break before Easter and students from colder parts of North America go to warm areas of tourism. These students frequently participate in transgressive activities that are discouraged during the school year. Getting a ‘black henna’ temporary tattoo is so popular during spring break that the FDA and Florida produce press releases prior to the annual migration to the beaches.

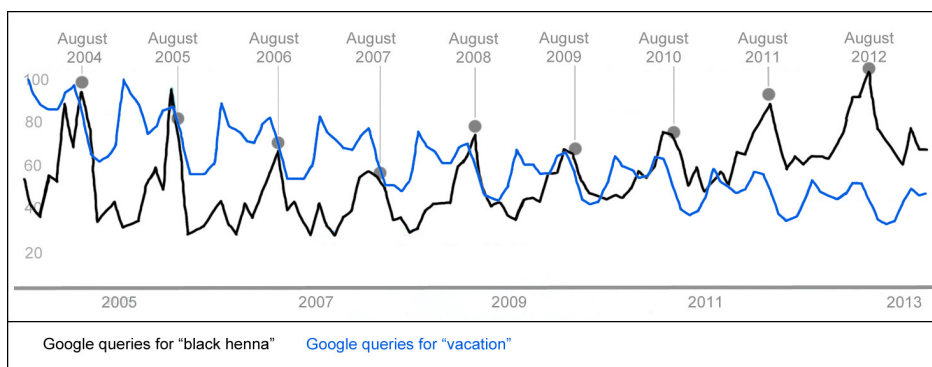


Figure 91: Graph comparing Google queries for ‘vacation’ and ‘black henna’ from Google Trends.

Black henna meme organism activity is more pronounced during spring break than regular henna meme organism activity. 500,000 students traveled to Panama City in Florida for Spring Break in 2012; Panama City has a large number of shops and independent ‘black henna’ vendors and spring break is their busiest season. Other beach areas have similar surges of students, and similar temporary informal economic surges of ‘black henna.’

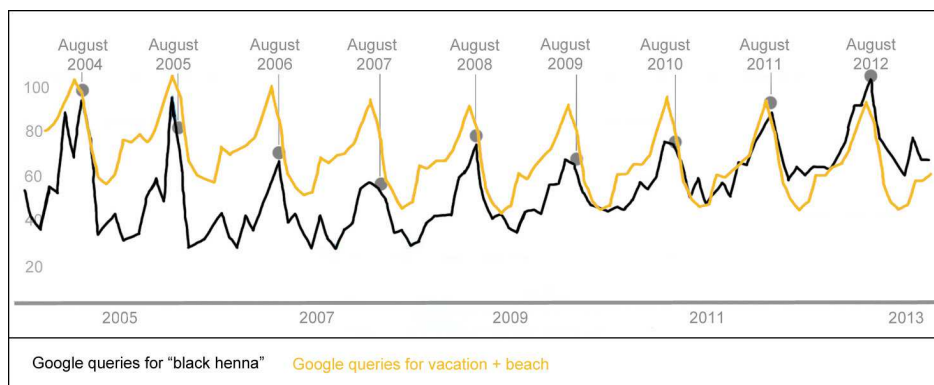


Figure 92: Graph showing that the queries of vacation + beach and ‘black henna’ have closely matching memetic pulses.

The comparison of ‘vacation’ and ‘black henna’ queries show different pulses. The early memetic activity of ‘vacation’ queries may be for the purpose of planning vacations when workers submit their vacation requests for the year and begin to plan their time away from their job. The ‘black henna’ memes do not become active before tourists leave for vacation. ‘Black’ henna is queried after people they return home from vacation, possibly to find information on their perplexingly itchy souvenir.

A more precise fit is the pulse of vacations at beaches with ‘black henna.’ ‘Black henna’ is not limited to beach communities during vacation season but the memetic pulse indicates that is a

probable area of coincidence. Vacation and ‘black henna’ have similar annual pulses, supporting the reports indicating that black henna largely exists in the informal, seasonal, economic sphere of tourism. ‘Vacation + beach’ queries arose largely from North America, as were inquiries about reservation packages and rentals.

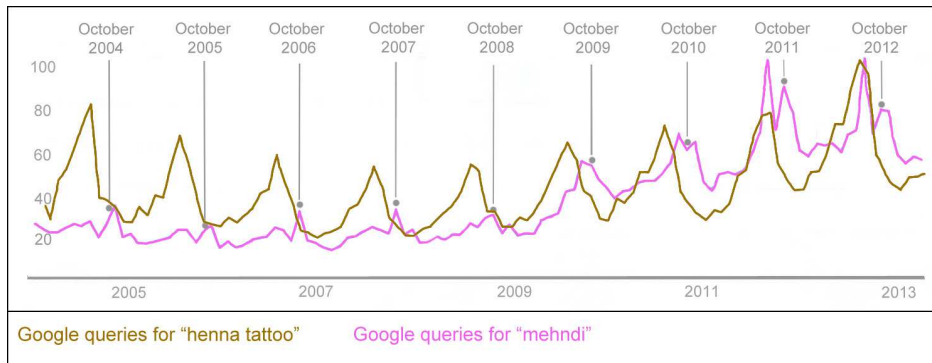


Figure 93: Graph showing the comparative pulses of queries for ‘henna tattoo’ and ‘mehndi’¹¹¹⁹ adapted from Google Trends. This graph shows an annual ‘mehndi’ memetic surge around Diwali, a Hindu celebration that frequently includes henna parties,¹¹²⁰ occurring in late October or early November, as opposed to a July and August surge for ‘henna.’

Henna and ‘mehndi’ meme organisms have annual cycles, but with differing memetic pulses.

Online, henna’s memetic peak coincides with the northern hemisphere’s warm season, when skin is bared and ornamented. A ‘mehndi’ annual double peak occurs at Diwali, India’s ‘Festival of Lights’ a national holiday that people often celebrate with henna adornment, and Karwa Chauth, a late autumn women’s festival also celebrated with henna. Both are celebrated in mid-October or mid-November, with the dates being based on a lunar calendar. ‘Mehndi’ queries, originate in Pakistan and India rather than Europe and North America. The sub-queries of mehndi for Diwali and Karwa Chauth are for patterns; the seasonal mehndi meme is tightly linked with the

acquisition of new patterns to ornament skin. Black henna is certainly used in the festivities of these South Asian holidays, but the pulse does not coincide with the migrations of tourism, and is in a different cultural context.

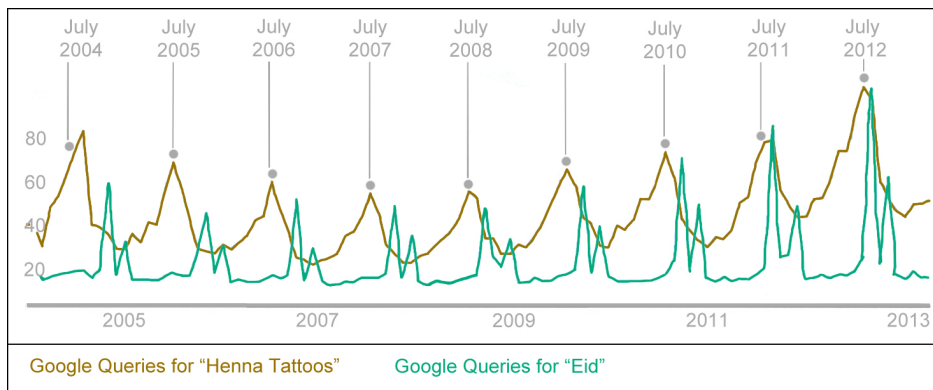


Figure 94: Graph showing the comparative pulses of queries for ‘henna tattoo’ and ‘Eid.’ ¹¹²¹

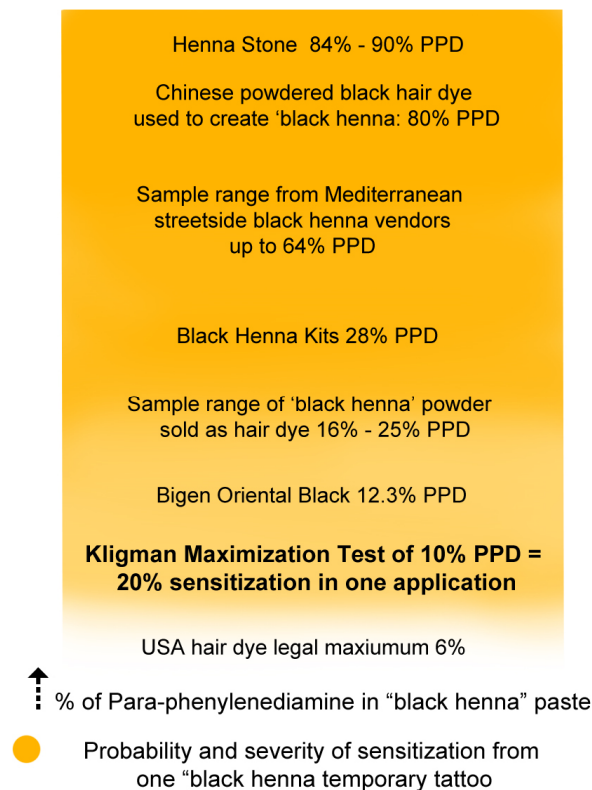
The x-axis represents January 2004 through March 2013. 100 on the y-axis represents the maximum number or queries for both henna tattoo and Eid, not the actual number of queries. The query for ‘Eid’ shows a different cycle than ‘henna tattoo’, with peaks occurring in at the Muslim holidays in a 354-day lunar calendar. Eid celebrations frequently include henna parties.

The query for ‘Eid’ compared to the query for henna tattoo shows another memetic pulse out of annual sequence with the western beach vacation pulse of henna. The *Eid meme organism* pulse has two peaks occurring during the Muslim lunar 354-day year, as opposed to the warm season Northern hemisphere *henna tattoo* and *black henna meme organism* pulse of the solar year. Women celebrate Eid al-Fitr and Eid al-Adha with henna parties. The highest number of online queries for Eids originate in Pakistan, Bangladesh, and the Arabian Peninsula; memetic activity for Eid Henna is most active in those regions. ‘Black henna’ is presently fashionable in these areas. On Google, the *black henna meme organisms* are most active northern hemisphere

English-speaking countries drive online, during or just following their migrations to beaches on vacation.

PPD Content and Estimates of Sensitization through Black Henna Temporary Tattoos

According to the Kligman maximization test, an application of 10% PPD paste to skin will sensitize 100% of subjects in five or fewer applications.



All black henna pastes tested exceed concentrations of 10% PPD. Larger applications of higher concentration are more sensitizing.

Figure 95: Diagram of known levels of PPD in 'black henna' pastes compared the 10% PPD paste used in Kligman's maximization test which produced 100% sensitization in five applications or fewer.¹¹²²



Figure 96: Though it would be unethical to test and is impossible to assemble quantitative information from the informal economic sector on injuries from black henna temporary tattoos, it appears that larger applications of higher PPD content black henna temporary tattoo paste cause more severe allergic reactions.¹¹²³

The FDA has prohibited PPD from being used in direct contact with skin since 1938.¹¹²⁴

Sensitization to para-phenylenediamine through hair dye is a well-known problem, people begin showing symptoms of sensitization when they have used oxidative permanent hair dyes for about four years.¹¹²⁵ The FDA has limited hair dye to no more than 6% content of para-phenylenediamine before dilution to mitigate sensitization. Hair dye not produced in the USA is not bound by US law, and may have extremely high para-phenylenediamine contents, though it is easily obtainable through online and local markets.

The PPD content of 'black henna' temporary tattoo paste have dye contents far above the 6% permitted for oxidative hair dye in western countries. Kligman found that 10% PPD painted as a patch test on skin causes sensitization in 100% of subjects in five applications or fewer.¹¹²⁶ The blistering and scarring appears in the area of the pattern five to twenty days after application, and may sensitize as many as 50%¹¹²⁷ of the subjects on the first application. The likelihood and intensity of PPD sensitization is correlated with the content, the length of time the paste is on skin, the area of the skin covered, the age of the subject, genetic predisposition, and previous contact with the chemical. Bigen Oriental black hair dye at 12.3% PPD¹¹²⁸ is at the low end of the comparison chart, and is known to cause allergic reactions. The 15.7% PPD 'black henna' paste tested by Dr. Brancaccio¹¹²⁹ caused a severe allergic reaction. The black hair dye powders containing PPD¹¹³⁰ sold through Middle Eastern, South Asian and Arab markets¹¹³¹ range from 16% to 29% dye content. *Blackhennakits.com* 'black henna' was tested by the FDA and found to contain 28% PPD.¹¹³²

Higher PPD contents come from mixtures of Piko and henna stone, used through Africa and around the Mediterranean areas or tourism. Beachfront black henna artists' pastes tested up to 64% PPD.¹¹³³ 'Spiking powder' or Chinese black hair dye used to blacken black henna

temporary tattoo paste in Bali was found to be 80% PPD.¹¹³⁴ Henna stone, believed to be a harmless natural product, is the most dangerous component of ‘black henna’ and was found to be 83% to 90% para-phenylenediamine 90%¹¹³⁵

Cultural Memes Collaborating and Competing with *Black Henna Meme Organisms*

Commonly held cultural memes collaborated or competed with *black henna meme organisms*, and drove some of the understandings of ‘black henna’ in local network environments and the larger ideosphere. The following meme organisms are summaries of understandings that appeared in news articles and online, detailed in the previous chapters of this work.

One *black henna harmless meme organism* evolved from, “‘black henna’ is created with hair dye, and hair dye is not harmful.” Hair dye has been used by most women and many men at some time in their lives, and in their experience, hair dye has appeared to be harmless. Home dye kits are available in grocery stores and there is no regulation on sales. In USA, Canada, and Europe, chemical hair dye powder is required to have a PPD concentration of no more than 6%, so that PPD is at a level of 1% or lower in dilution when applied to hair. Chemical hair dye is to be kept out of contact with skin to the greatest extent possible. The levels of PPD required to stain skin black are over 10%, far higher than what is considered safe use in hair dye. All permanent oxidative hair dye contains PPD and is a strong sensitizer, and PPD was voted allergen of the year in 2006.

A *black henna artists’ meme organism* is, “I may keep my ingredients secret,” or, “I trust my supplier.” Secrecy of methods and process was a way of preserving a competitive edge before

patents were available, and remains a meme organism replicating in many network environments. The declaration of ingredients in products is a relatively modern concept evolved from injuries and subsequent government safety regulations.

Partially fermented powdered indigo was, and still is marketed as 'black henna' to be used in combination with henna to dye hair black gave support to *the black henna harmless meme organism* and obscured the dangerousness of black henna hair dye products containing PPD. Indigo does not dye skin black. Chemical hair dye mixes containing PPD are marketed as black henna and frequently do not have an ingredient declaration. Fermented indigo and chemical black henna hair dye are two different products but are similarly marketed.

The meme organisms of "people should be free to do anything they like with their own bodies," versus "the government should protect people against things that will harm them," were polar aspects of arguments for and against the regulation of 'black henna' in the areas of informal economies. The argument of agency in regards to one's own body has also been tied to concepts of free speech, creativity and expression. The demand that government should mitigate risk for people has not translated easily and effectively into enforceable, protective laws regulating an informal economy. In most areas where laws against PPD skin painting were passed artists continued to serve customers the black henna they wanted. Artists became secretive in response to the prohibition of a desired commodity.¹¹³⁶

People are inclined to trust their personal experience above all other information, giving rise to, "if you had a 'black henna' temporary tattoo once and did not have a problem, you may have another without a problem." Many people do not react to the first contact with a sensitizer. When a person does come in contact with a sensitizer, the body's immune system produces

antibodies against the sensitizing agent, the antigen. The antigen-antibody reaction will become greater at each exposure to the sensitizing agent. Many people did not react to ‘black henna’ at the first application on vacation. The second application of ‘black henna’ to freshen the stain or a new application to have a temporary tattoo to show off at home often caused a severe allergic reaction. The ‘have a spot test today and come back tomorrow’ proffered by ‘black henna’ vendors to customers to provide a sense of safety and prudence was particularly misleading; dermatologists advise against patch testing with PPD because of the risk of sensitization.¹¹³⁷ The delayed ‘black henna’ hypersensitivity reaction might occur up to thirty days after the test and the spot test might, itself, sensitize the person.

The following are paired cultural constructions of space that influenced *henna* and *black henna meme organisms*. “Well-regulated spaces are safe, therefore ‘black henna’ applied in licensed salons is safe,” versus “unregulated spaces are dangerous, therefore black henna applied by artists working as streetside vendors is unsafe.” These memes were replicated in people’s conversations, newspaper articles, and medical journal articles. The regulation of space does not affect PPD allergenicity. Many ‘black henna’ temporary tattoos are applied in salons and licensed spaces when ingredient declaration is absent and the risks are unknown or not considered serious.

Similarly, “expensive spaces that reproduce the comforts of the industrialized world are safe, so ‘black henna’ in four-star hotels must safe.” Tourists whose children were injured by poolside black henna artists often expressed a sense of betrayal in that they expected the expense and familiarity of their surroundings to insure harmlessness. Tourists also expected that ‘black henna’ vendors working on the premises of a package vacation venue would provide a safe

product borne of the assumption that careful planning and controlled environment would eliminate risk.

Injuries are constructed differently in different network environments based on assumptions about freedom, personal responsibility, legal protection, and the invisibility of an injury that was delayed by days or weeks. The *injuries happen; be careful, meme organism* was frequently incorporated into *black henna warning meme organisms* in the third space of tourism. 'Being careful' would imply that the artist and consumer both had an understanding of the injuriousness of PPD, and could make an informed judgment about the dose/time likelihood of the artist's paste on their skin, which was unlikely to be the case.

The meme organism of, 'If someone harms you, you can sue for damages,' replicated into Western constructions of *black henna warning meme organisms*. This meme replicates but rarely proceeds to legal action in seasonal informal economies where the artist cannot be found. If there an identifiable responsible party where the injury occurred, such as the owner of a mall, hotel, or theme park, and the injury occurs in a country where negligence that results in harm may be legally addressed, a lawsuit may be filed. Filing suits across international boundaries between donor and host areas of tourism, may be difficult or impossible.

The injury memes of 'black henna injuries are never more than a little rash,' versus 'visible blisters and scars are serious injuries,' produce a cultural binary conflict about the consequences of painting PPD on skin. In newspaper reports on black henna injuries from the UK, the ruptured smoothness of a child's skin is framed as a rupture of innocence, casting permanent shame on both child and parent. It is unusual for PPD to reach full blistering within the time frame that a person can confront the artist in the third space of tourism, so artists rarely see a

fully developed reaction. Visible, unexpected injuries on children are also triggers for memes of empathy and grief based on appearance. Visible injuries are often more distressing to care givers than invisible injuries such as children's fevers and digestive upsets which rarely attract media attention.

The meme, 'If I do not see harm, no harm exists,' closely follows the assumption that there is little harm in painting skin with PPD other than a mild rash. 'If I do not intend harm, no harm exists,' seems to be part of black henna artists' answers when confronted with angry patrons. The intentionality of harm is part of legal judgments in assault cases: harm may be accidental, unintentional, negligent, or malicious, and these have different penalties under law. Customer's anger towards and demands of compensation from artists was often deflected with a claim to innocence, "I had no idea; I never meant to harm anyone."

"If I warn a person of possible allergic reactions, I am not responsible for their injury." In several injury cases black henna artists insisted that they warned every consumer about potential allergic reactions and offered a patch test. Customers generally responded that there was no such warning or offer. Perhaps the artist exaggerated their attention to warnings. Perhaps the consumer paid little attention to warnings. If DuPont, the patent holders of PPD state that it PPD never be painted on skin and government agencies such as the FDA forbid the use on skin, whether or not there was a warning may beg the question of injury liability. The *PPD warning meme organism* was never replicated from patent holder to manufacturer to end consumer and at each step, liability was disclaimed.

Mimesis is a powerful force in human behavior and generally has served social species very well. "If lots of people are doing it, I should do it too," is an evolutionarily beneficial response

to seeing their pack running towards, or away from something. A member of a pack may live longer if they run with the other members rather than carefully evaluating the presence of a predator, or sudden windfall of food. Parents often commented that the child saw many other children with 'black henna' temporary tattoos, and became infatuated with the idea of acquiring one. "If everyone is doing it, it must be OK," follows the same principle of pack memetic behavior. "If celebrities are doing it, I should do it too." Emulating powerful and influential members of a pack is not only apt to preserve life, it tends to elevate a member's status in a group by associate with elites, and functions as an evolutionarily useful process.

There are social contexts of the *black henna warning meme* when people are injured by 'black henna.' Parental warnings about injured children are quickest to surface; people seem to have a sense of rhetorical urgency and drama when they warn about 'black henna' following an injury to their child. These warnings are socially useful, and genuinely heartfelt and perhaps allow some catharsis of the dismay a parent has for their child's injury. If a child is harmed, a social group often accuses the parent of being negligent. Warning may absolve some of the guilt. People often describe their own or their children's injuries in great detail and narrate how suffering will continue into the future. Recitation of injuries endured is often a way of elevating status, particularly among women; Pashtun women excel in narrating stories of sorrows suffered, and eliciting empathy enhances their social position.¹¹³⁸ Warning of injuries suffered in areas of tourism also allows the reproduction of narratives of western hegemony and superiority in a politically acceptable framework.

The construction of blame for 'black henna' injuries frequently comes wrapped in social narratives of western superiority, colonial hegemony, and distrust of lower classes of workers. Artists working in 'black henna' may be termed dirty, unscrupulous, and greedy when they have

caused injuries. People are often chided for trusting a foreign person to mark their skin and reminded that they should expect to be damaged from such foolishness. Sunburns, hangovers, disruptive bacteria and viruses in the traveler's body are expected to be resolved quickly upon the return home. If the body returns marked and unwell from the third space of tourism, people often import memes of xenophobia, class, and colonialism in their quest to place blame. The memes of transgression in the third space of tourism are brought to bear in 'black henna' narratives. It is acceptable for a traveler to transgress donor norms in the host's space, but the traveler's body is expected to normalize upon return to the donor country.

Beyond the Boundaries of the Online English Language Network Environment

Google's first hundred returns for a 'black henna' query contain seventy-seven pages with warning memes of the dangerousness of PPD. One of the returns is an entry page to a 'Tumblr' social network of artists for whom 'black henna' is a beautiful and desirable cultural body art. Many artists' pages on Facebook feature and admire 'black henna.'¹¹³⁹ One may assume that the boundaries of divergent groups separate some mutually exclusive network environments within online English language network environments. This research work focuses on the online English language memes of 'black henna' in areas or tourism, but the competing black henna memplexes of other network environments offer definition through contrast to the English language *black henna warning meme organisms*.

Cindy Trusty, an American henna artist posting to Facebook described a *black henna meme organism* network environment boundary encounter between with a Somali family in the Twin Cities Minnesota. "Every time you hear about PPD in Minnesota, it is associated with the Somali

Mall. I did an event a couple years ago...a grand opening for a business. I was doing face painting and henna. Two beautiful young Somali girls came up to me, and asked me about my henna -- they wanted to know if it "hurt." Cindy continued, "I showed them photos of what black henna can do, and told them of the dangers. They pulled up the sleeves of their traditional clothing...and their arms were COVERED with scars. They said they didn't KNOW it was from the "black henna"!!! So they went over and got their mom. She couldn't speak English, so they translated for me. Cindy said that of the mother, "She started yelling in Somali and stormed off, dragging the younger girl with her. The older one looked at me, so very sad, and said, "I'm sorry, but my mom says your henna is garbage. She says it doesn't matter what the black henna does...it is beautiful, and it is what is expected, and it is what we have to get." She then followed her mom. I wanted to freakin' CRY.¹¹⁴⁰

Black henna warning meme organisms in the memeplex of multiculturalism and mutual respect become areas of conflict. The globalizing memes of embracing other people's cultures do not include guidelines on negotiating concepts of injury. To imply that 'black henna' may be harmful summons of meme organisms of imperialist hegemony, stereotyping, and racism. Potentially productive discussions of 'black henna' among different network environments fail against these highly emotional tropes.

The communities of 'black henna' on Facebook show the flows and boundaries of *black henna meme organisms* through the 'likes' to pages and images; the flows move through ethnic communities, diaspora, and people who have similar aesthetic preferences.¹¹⁴¹ These 'black henna' artists have no shortage of clients and admirers. 'Black henna' work is a route to economic independence and a better life for the women who practice it in the social groups where it is fashionable. Understandings of 'black henna' injuries in cultural and social networks

of diaspora will surface over time and the people in these networks will balance risk and benefit for themselves. The spaces in the margins between *black henna warning meme organisms*¹⁴² and 'black henna' acceptance will be the areas of misunderstanding, harm, and dismay. *Black henna meme organism* of warning or avoidance will emerge and evolve in the within localized network environments.

CHAPTER VI: CONCLUSION

Approaching the Geographies of the Epidemic of PPD Sensitization through the Evolution of *Black Henna Meme Organisms* in Network Environments

The Epidemic of PPD Sensitization in Globalizing Culture

Forty years before the writing of this work, painting skin with para-phenylenediamine appears to have been unknown. The technique seems to have evolved from attempts to make darkened henna traditions in the Horn of Africa and India more swift and efficient through the introduction of inexpensive, easy to use home chemical hair dye products in to the region. Bigen hair color, expanded home hair dye kit in 1957, subsequently marketing in Africa¹¹⁴³ and Peacock hair dye followed.¹¹⁴⁴ The technique of substituting PPD for henna on skin appears to have moved gradually through women's communities in indigenous henna-using areas during the 1980's and 1990's. In fifteen years, the 'black henna' temporary tattoo jumped from local use into the global marketplace through pop culture and the informal economies of beachside tourism. Each 'black henna' temporary tattoo, whether done in a cultural setting or in the third space of tourism, potentially causes the artist and recipient extreme sensitization to an extended family of coal tar derived chemicals that surround people every day: dyes and coloring agents for textiles, furs, and other products, permanent¹¹⁴⁵ and some semi-permanent hair dyes, photographic developers, lack rubber products and equipment parts, and printing inks.¹¹⁴⁶

That is to say, each application of PPD sensitizes a person to host of products in the industrialized world. The economies of all of those products will be affected as people become severely allergic to them.

The greatest effect of this sensitization will be hair dye as 70% of all women in industrialized countries dye their hair with permanent oxidative dye at some time in their life.¹¹⁴⁷ For a person sensitized by PPD, the allergic reaction to hair dye may more than inconvenient,¹¹⁴⁸ it may be life threatening¹¹⁴⁹ or fatal.¹¹⁵⁰ The western chemical hair dye industry has already required that each package of hair dye containing PPD have a warning label that no person who has had a henna temporary tattoo should use that product.

The information about where and when people have been painted with PPD may be estimated and projected into future extreme allergic reactions from hair dye. It is impossible to know where and how many people have had 'black henna.' When Brian Plunkett, licensed British Trichologist, visited a middle school classroom, he asked a class of twenty- seven if they had had a 'black henna' tattoo, seven responded that they had gotten 'black henna,' and two of them had severe reactions.¹¹⁵¹

I will propose a potential range of the PPD sensitization epidemic based on the information assembled through this research paper.

I have constructed a projection of the numbers of people who have had 'black henna' temporary tattoos in the third spaces of tourism. On any given day, there are artists applying 'black henna' in tourist areas in Mexico, USA, the Caribbean, Canada, UK, Europe, the eastern Mediterranean, the Adriatic, North Africa, East Africa, the Arabian Peninsula, Malaysia and Indonesia, India and the Philippines. In addition, there are 'black henna' parlors in shopping malls, salons, and hotels.

When I have read “there were many artists ‘here,’ or found photographs of a row of artists on a boardwalk, I propose a general estimate that any third space of tourism of moderate size can support about two dozen ‘black henna’ artists. Based on a Myrtle Beach resident’s estimate that there are three hundred ‘black henna’ artists working on that single South Carolina vacation beach area, that estimate may be very low.

I propose that there are a thousand tourist destinations with ‘black henna’ artists in the above list of countries and each single destination supports no less than twenty-five artists. I propose that each artist works three hundred days a year. I propose that the average artist does twenty ‘black henna’ tattoos each day. This is a modest number; an artist could do many more, but there may be a slow days. The rate of sensitization seems to vary based on the size of the PPD application, the length of time that PPD is in contact with the skin, and the PPD content of the paste. The age of the client may also be a factor; children may be more easily sensitized. I propose, based on the sensitization results from the Minneapolis school group¹¹⁵² and Kligman’s Maximization tests,¹¹⁵³ that the rate of sensitization per tattoo averages 50%. Most of this group currently lives the USA, Canada, UK, Europe, and Australia, who visited beaches and other recreation areas.

To calculate from my proposals:

- 25 ‘black henna’ artists per area of area of tourism
- 1,000 areas of tourism = 25,000 working ‘black henna’ artists
- 300 days’ work per year = 750,000 days of ‘black henna’ applications
- 25 ‘black henna’ tattoos per day = 18,750,000 applications per year

- 15 years of popularity since 1997 = 281,250,000 ‘black henna’ temporary tattoos to date
- People severely sensitized to PPD as of 2013 = 140,625,000
- Increase in number of people sensitized to PPD each year following 2013 = 9,375,000

The number of people in the industrialized west already sensitized by ‘black henna’ temporary tattoos in areas of tourism is comparable to the number of people in the USA, Canada, Western Europe, and Australia who are presently infected with HIV.¹¹⁵⁴ The HIV and PPD sensitization are similar in that there is a delayed reaction to PPD and the latency of HIV development.

Neither artist nor client was aware of the life-long harm done at the moment of the initial event. Both HIV and PPD sensitization must have correct diagnosis and life-long management because there is a potential for a fatal event.

The second wave of the PPD epidemic will occur years after the blistering of a vacation ‘black henna’ temporary tattoo. This will be at the application of oxidative permanent hair dye, either for adolescent fun, or later, to mask gray hair. If a child had a ‘black henna’ temporary tattoo on summer vacation and has forgotten about it, an adolescent decision to change hair color may cause a reaction requiring hospitalization about ten years after the sensitizing ‘black henna’ incident. If a child had ‘black henna’ and decides to cover gray at the onset of maturity, an extreme antigen response would occur twenty-five to thirty years after the initial incident. Given that ‘black henna’ temporary tattoos became popular in 1997, a projection would indicate that incidents of unusually severe hair dye reactions would begin in about 2007 and gradually increase to a significant number of hospitalizations from severe allergic reactions to PPD-containing hair dye products beginning in 2020 and continuing at least until 2040.

Application of 'black henna' in 1998 to a 10-year-old child who tries hair dye by age 20 may result in a hospitalization around 2008. Application of black henna in 1998 to a 10-year-old child who decides to cover gray at the age of 32 may result in hospitalization around 2020.

If the group of twenty-seven children questioned in a British middle school is representative, with 25% of them having had 'black henna' and 10% of that group having severe reactions at the initial application, one might expect that 7.5% of all people who attempt to cover their gray with oxidative dyes in 2030 will have severe, life-threatening allergic reactions and 25% will have some level of an allergic response.¹¹⁵⁵ These are not an unrealistic numbers in sensitization, based on the rise in sensitization found recently in London.¹¹⁵⁶ To compare, about 0.6% of people are allergic to peanuts and 2.8% are allergic to seafood.¹¹⁵⁷

The PPD sensitization epidemic has just begun and the most direct effect will be on the chemical hair dye industry. This second phase of the epidemic will appear in a vastly larger population and proportion among women in Africa, the Arabian Peninsula, and South Asia, and diaspora from those areas, who have used 'black henna' in social celebrations, weddings, and personal adornment. Based on photographs and descriptions of 'black henna' used at Diwali, Eids, and weddings, I estimate that there are local populations where the women's sensitization rates near 100%. Caucasians gray earlier than African and South Asians, so the crest of hair dye reactions in Africa and South Asia may begin around 2035.

Approaching Problems in Cultural Geography through Online Memetics

The method of approaching cultural change as meme organisms flowing, replicating, competing, cooperating, and evolving within network environments provides an alternate way to envision the complexities of cultural geography with less linguistic turbidity than post-structural writing. There is an ideosphere where memes flow, evolve, compete, and cooperate. This ideosphere has always existed, but through the proliferation of online social networks, we can observe the part of the process that occurs online.

The ideosphere allowed the *black henna meme organism* to flow locally and globally through various networks of popular culture. Meme organisms will replicate where they can. ‘Black henna’ is not a universal technique of skin adornment, but there are many areas where it has replicated prolifically. *Black henna meme organisms* will evolve in the network environments of social groups; *black henna meme organisms* will evolve differently in different social networks. *Black henna meme organisms* evolved as an efficient and profitable informal economy of personal adornment, though differently in the many social groups, adjusting to the local environments of ideas and economies. The global industry of PPD and the unregulated sale of PPD facilitated the replication of *black henna meme organisms*.

The ideosphere is a web of memes flowing through of social networks, culture flowing through groups of people. The online ideosphere has a loose connection with geographic location. The online record of memes is a useful tool for observing the flow of ideas through space. Meme organisms replicate most fluidly through the spaces and boundaries connected to social networks. The flows and boundaries of the ideosphere may be predictable. The social networks of the online ideosphere may be useful tool for observation and analysis of cultural geography in

real time. Truthy¹¹⁵⁸ and FloatingSheep¹¹⁵⁹ map the flow of meme organisms through network environments by observing online social networks. The study of the online ideosphere is not fundamentally different from cultural geographic research of years past; this new research method simply uses the archive created by the footprints left by electronic communications rather than rutters, diaries, newspapers, and interviews.

We have limited choice in the memes that we are exposed to, just as we have limited choice in what microbes and viruses we are exposed to. Any time we turn on the television, log onto the Internet, walk through a library, go shopping, or listen to other people, we are exposed to memes. These memes may replicate into our minds. Memes, microbes, and viruses are all replicators and will replicate whenever and wherever they can, and will evolve, collaborate, and compete to replicate or they will or perish. This puts the ownership of culture, cultural appropriation, and hegemony in a different perspective. A unit of culture may replicate into a person through a book, a photograph, an artifact, an image, and it may replicate with very little context. It may evolve to best replicate into the new host and network environment, to the point that it is very different from the earlier generation of the meme. Therefore, the person with the new variety of the meme did not ‘steal’ or ‘ruin’ another person’s culture. The meme, the cultural unit replicated into a new network environment because it is a replicator and replicators *must* replicate.¹¹⁶⁰ The meme organism evolved, collaborated and competed with other memes until it replicated more effectively.

The Problems of Globalization, PPD and ‘Black Henna’

The practice of painting PPD on skin appears to have had multiple origins and multiple flows, but is linked to one single source, the PPD molecule. This chemical is readily available, cheap, versatile, lightweight to ship, globally available, sales are unregulated, and the warning does not accompany the product from producer to end-user. ‘Black henna’ artists choose PPD because it is a fast, convenient, inexpensive, and widely available way to make a black stain on skin for the several areas of cultural adornment that favor fast, black, temporary skin markings. Presently, there is no warning label for many high dye content end user sources of PPD for ‘black henna.’

Some artists and clients choose ‘black henna’ because it is stylish and well adapted to the time constraints of a wedding, Eid, Diwali, salon appointment, or holiday party. ‘Black henna’ could be applied and removed in half an hour rather than half a day. The *black henna desire and fashion meme organism’s* replicated through the pathways of social networks. Some patrons desired ‘black henna’ because they saw others choosing it, at beaches, shopping malls, festivals, and street fairs. Children in particular enjoyed the inversion of having a tattoo normally only permitted to adults. People wanted to emulate celebrities with large black tattoos. Some people preferred ‘black henna’ because the appearance emulated tattooing. Conspicuous black tattoos signified rebellion, dangerousness and power. People whose bodies were disciplined by participation in the industrial workforce acquired ‘black henna’ in the third spaces of tourism as performance of transgression and social inversion.

Since the allergic reaction to PPD has two levels of delay, the people who chose ‘black henna’ were unaware, or minimally aware of the reaction, or if they are aware of it, considered it trivial. Artists defended their ‘black henna’ income, as it was a means to economically improve their

lives, become independent, and help their families. Consumers who choose 'black henna' defended their freedom to do what they wished with their body.

When governments legislated against painting PPD on skin, the regulations were often resisted or ignored because people's connections to their social networks were stronger than their connection to regulation. The lack of submission to 'black henna' regulation has been a problem for the forbidding of 'black henna' the Arabian Peninsula. Arab women have resisted or resented governmental intrusion in their personal choices of 'black henna' adornment.¹¹⁶¹ When governments have had limited funds for enforcement, the law has been openly resisted as it was in Florida.¹¹⁶² *Black henna warning and regulation meme organisms* often fail to replicate and are resisted when they do not replicate to artists and patrons. When patrons request 'black henna,' artists are often reluctant to turn them away, knowing that they may be served by another artist. Both patrons and artists may believe a person has the right to do what they wish with their body and that the government should not interfere. *Black henna warning meme organisms* from outside one's network are resisted because beliefs are a product of meme organisms evolving within a network environment: beliefs are produced by interactions within a social group and will be defended by that group because they are socially and emotionally invested in the belief.

People who have been injured by 'black henna' believe strongly that the practice is dangerous and should be discontinued. People who have not seen injuries believe equally strongly that the practice is not dangerous and people should have the right to do it. This is a particular problem in areas of tourism because there is an expectation of harmlessness in the third space of tourism.

The harm from 'black henna' is invisible in the area of tourism compared to other hazards.

Many hazards in the third space of tourism are easily identifiable. In the case of sunburn, unprotected prolonged exposure to sun produces painful sunburn within a day. Excessive alcohol

consumption produces nausea or the effects of inappropriate behavior within hours. Insufficient mosquito protection produces mosquito bites within minutes. More attention is paid to hazards with immediate consequences. Delayed consequences may lead to denial of consequences.

The sensitization epidemic dynamic caused by painting skin with 'black henna' is similar to the problem of tobacco, excessive alcohol consumption, and methamphetamine production. Few negative consequences are visible at the time of exposure. These products are often desired and often well socially tolerated, though lifetime health consequences of the use of these products are potentially severe. Tobacco and alcohol production and sales are presently regulated in the west. Health warnings are required on the end user tobacco and alcohol products, sales and use are restricted by age and space. The problem of 'black henna' is similar to the problem of methamphetamine in that the means and knowledge to create both methamphetamine and 'black henna' are widely available while the prohibition prevents regulation and risk management.

As with HIV, the dynamics of 'black henna' are a global problem because people can travel long distances and go many years before the health consequences manifest, so the location of intervention and prevention is not in the same place that the injury is presented. 'Black henna' risk may be managed through social awareness in the events where sensitization occurs: festivals, multi-cultural events, parties, areas of tourism, Eids and Diwali. 'Black henna' risk management may be targeted in the spaces where sensitization occurs: in vacation area tee-shirt shops, surf shops, boardwalks,¹¹⁶³ beaches, tattoo parlors, beauty parlors, in malls,¹¹⁶⁴ and in salons. Risk management and monitoring of 'black henna' may be too socially and logistically expensive for a government office to police. For both HIV and 'black henna,' privacy, intimacy, and transitory informal economies are an obstacle to law enforcement. Targeting the hubs of a scale-free network with a warning meme, as has been done with HIV,¹¹⁶⁵ may be effective with

black henna. If a warning meme is replicated with every package of PPD to the end consumer, it will replicate to the artist, the hubs in the 'black henna' scale-free network.

Effective prevention and management of 'black henna' temporary tattoos could be managed through inserting a warning meme into the commerce of para-phenylenediamine. Bigen, Piku, and other high chemical content hair dyes are almost universally available. These products have dye content far in excess of the 6% legal maximum PPD content of hair dye¹¹⁶⁶ though sales are unregulated. Different countries have different regulations on PPD in hair dye and body paints¹¹⁶⁷ and global trade online transports these products to retailers and consumers with little intervention.¹¹⁶⁸ There is neither international agreement on nor enforcement of DuPont's mandate that PPD not be used on skin.¹¹⁶⁹ If DuPont's warning meme was replicated in products from manufacturer through distributor to commercial products, the warning meme would replicate into the end user's environment.

People actively seek 'black henna' as adornment,¹¹⁷⁰ and artists are happy to have the clients.¹¹⁷¹ Neither artists nor clients can make decisions about the safety of their work if they do not have even an ingredient declaration which many of high PPD content products lack. The *black henna warning meme organism* will evolve as it replicates into network environments of end users if it is universally attached to the chemical, as tobacco warning meme organisms have evolved since 1970. Tobacco warnings, taxes, and regulations have not prevented consumption of tobacco, but in many social networks consumption has been greatly reduced. If a *black henna warning meme organism* replicates into the network environments, evolves and becomes 'truthy,' whatever that truth may be, the end users in a network environment will evolve a simultaneously produced and consumed approach to the problem of safety and 'black henna' which they have.

Approaching ‘Black Henna’ Through Legal Geographies and the Problems of Creating Policy

When there is local use of ‘black henna,’ clients can potentially return to the artist and present the consequences of their work to the artist, or they can present their injuries at a local clinic. If there are sufficient presentations at local health clinics, the problem will be evidenced. If public health policy on ‘black henna’ is deemed necessary, that will be done as a local response to the hazard. In either case, the local health consequences of ‘black henna’ will gradually become common knowledge and the risk negotiated by local artists and their clients, or the practice will be addressed by their local governments. As of 2012, ‘black henna’ was made illegal and actively prosecuted in Dubai,¹¹⁷² the UAE,¹¹⁷³ Abu Dhabi,¹¹⁷⁴ and Oman.¹¹⁷⁵ The Arabian Peninsula has one of the longer histories of henna adulteration in the name of style and the present adult female leukemia and lymphoma epidemic is linked to the use of benzene mixed into henna paste.¹¹⁷⁶ However, these laws against ‘black henna’ are circumvented when a client wants ‘black henna’ and the artist believes that the client is not a government informant.¹¹⁷⁷

Dr. Sharon Jacob has advocated strongly in favor of legislation to protect children from ‘black henna’ injuries. Arguably, children are at the greatest risk.¹¹⁷⁸ Various local governments have attempted to outlaw both henna and ‘black henna,’ based on FDA rulings. Rehobeth and Wildwood Beach, New Jersey outlawed henna in 2000,¹¹⁷⁹ Henna was legal in Santa Monica in 2001,¹¹⁸⁰ but outlawed it in 2002,¹¹⁸¹ Wildwood outlawed henna in 2002,¹¹⁸² the House of Commons proposed law to outlaw black henna in 2003,¹¹⁸³ Health Canada outlawed black henna in 2003¹¹⁸⁴,¹¹⁸⁵ and Florida outlawed black in 2003.¹¹⁸⁶ These rulings prohibiting ‘black henna’ have had mixed results, from marginally successful to being completely ignored.

Basas wrote a paper on henna for the FDA Law Journal. She pointed out that the FDA policy must clearly differentiate between the harmlessness of natural henna and the dangerousness of some additives, particularly para-phenylenediamine. The policy must be neither on paternalistic nor xenophobic. Her point is well placed, that small businesses need not be unnecessarily disrupted by import alerts.

As FDA moves in the direction of a consistent policy on henna tattoos, it must be clear about what is prompting its focus. Concerns cannot be rooted in paternalism or novelty. As the cosmetic booms within white, Western, and European communities, mehndi commands attention and higher prices. Unfortunately, mehndi and its socio-cultural roots and meanings remain relatively unfamiliar to FDA, too.

FDA might have even first decided to respond to henna because it was a foreign or "exotic" product that policymakers were not familiar with culturally. Or, perhaps, the users of the product were the targets of concern. The agency must find a way to balance an interest in "vulnerable populations" and cultural autonomy. Out of hand, such regulation can provoke criticism that FDA is being paternalistic or overly protective of women and minorities.

While American packaging might be unfamiliar, most current henna users are familiar with what the product is and how it is applied. Rather than being a "vulnerable population," the women using these henna tattoo products are largely informed and savvy users. Traditional users may have grown up with mehndi applied at an early age, or purchased from reputable sources. A ban or import alert on henna products, particularly those from home countries, such as Pakistan, India, Egypt and Saudi Arabia, does not help them. Such actions limit their choices, and may lead to the development of black market acquisition of henna tattooing products--as it did with the proliferation of black and blue henna products, discussed earlier. Mehndi, after all, is not a product of vast cosmetics empires, such as L'Oreal or Johnson & Johnson. It is a product supplied from small vendors in the Middle East, Africa, and to a lesser extent, Eastern Europe. FDA's current stance on henna tattooing products, therefore, not only affects minority and alien women, but it also directly affects small foreign businesses.

After approving a change to its color additives list and the use of henna, FDA should intervene only in issues of adulterated henna, such as those mixtures containing PPD or lead. Uncontaminated henna should be allowed, as other relatively safe cosmetics are, to remain on the market for use on the skin. With its reframed and limited focus on adulterated henna products, FDA may ban these kinds of questionable forms of henna for good.

Unadulterated henna should be considered as a relatively safe cosmetic product, while FDA attention can turn to strengthening its ban on adulterated henna products. Clear

ingredient labeling will assist with regulating the henna products that are purchased directly by consumers.¹¹⁸⁷

The laws against skin application of PPD already exist, the research work on the harmlessness of henna and the dangerousness of PPD in prolonged contact with skin has been done. Products that can legally be marketed as henna must be defined and enforced as henna and nothing but henna. When henna contains only henna and nothing else, henna is safe for use on skin. For body art use, independent laboratory testing by the importer for purity, sift, lawsone content, adulteration, and pesticides should be sufficient to maintain public safety. Henna combined with additives should not be sold as henna. Products containing PPD should have the presence and level of dye content accurately stated at every point of production and distribution through the end use consumer. The problem with these requirements in production and distribution is that PPD producing countries do not appear to be dictated to by the FDA; they are driven by consumer demand to produce the PPD product. If there is a demand for clarity and replication of PPD warning labeling at all levels of commerce, it may be proposed that the consumer will make informed decisions if given sufficient information.

Approaching the Problem of PPD Sensitization through *PPD Warning Meme Organisms* in Network Environments

If the problem with ‘black henna’ is that the *black henna beauty and profit meme organism replicates* well, an alternate meme organism might be inserted into the system as a ‘probiotic’ for hazard management. *PPD hazard meme organisms* are not presently replicated to worker or the consumer at present because of the disconnection with the PPD product. This disconnection

creates the area of risk. Would it be possible to attach the *PPD hazard meme organism* at all stages of PPD-containing products so they can replicate into the workers' and consumers' network environments?

The industry producing PPD based products is the industry most financially vulnerable to loss of workers and lawsuits through injuries.¹¹⁸⁸ The PPD industry is the single most manageable point in the memetic sequence of warnings. Perhaps the industry could be persuaded or mandated to include safety warnings throughout the sequence from PPD manufacturing to PPD end user product, as is presently done with tobacco¹¹⁸⁹ and alcohol.¹¹⁹⁰ As the products pass through different spaces with different languages, the warning meme of an image of a 'black henna' pattern followed by 'black henna' blisters could replicate to any person who might consider using the product to paint skin. The *PPD warning meme organisms* would not have to be on the exterior of the product packaging as was proposed to the tobacco companies, the images could be an insert. The image would replicate into a person's memplex. There, it might be rejected as irrelevant if they were not painting PPD on skin. It might enter a person's memplex and evolve to one of several potential meme organisms: this causes harm and I do not want to harm people; this causes harm and I should use some different medium; this causes harm but I am willing to accept the risk. This memetic evolution would behave in the same way as photographic warnings about tobacco. As long as a person, or group of people, is not in contact with a meme of PPD harmfulness, the meme organism of PPD skin contact harmfulness cannot replicate into their network environment. If a *black henna allergic reaction meme organism* accompanies products containing PPD, it will then be have the opportunity to evolve and replicate into each network environment. Once in a network environment a *black henna allergic reaction meme*

organism will evolve into ‘truthines,’ in some form simultaneously produced and consumed by the group.

Meme Organisms: Warning, Content, Purchasing Restrictions

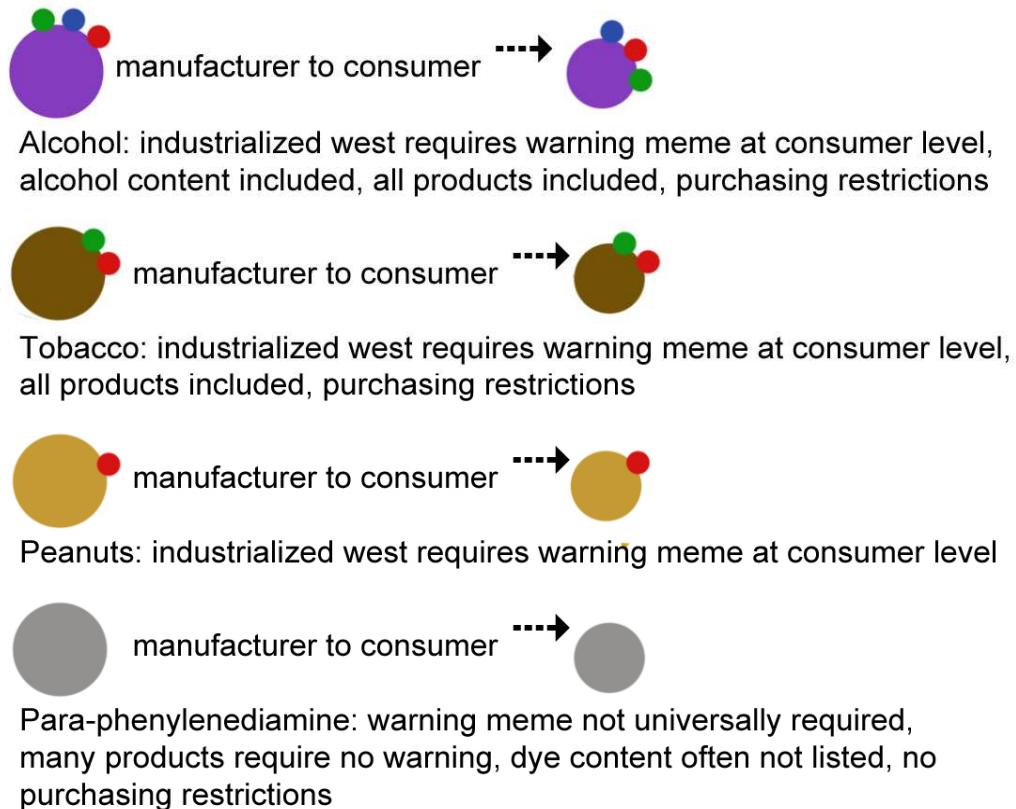


Figure 97: This is a diagram of warning memes attached to products and their replication into the network environment of the end user.

PPD products are legal and reasonably safe when used as directed. When PPD is misdirected and used to paint skin it becomes a hazard: the *PPD hazard meme organism* should be attached to PPD and not to henna, temporary tattooing, body art, artistic freedom or any other nuance. From

there, the *PPD skin hazard meme organism* will replicate, evolve, compete, and collaborate into network environments. The expense of the warning could be mitigated through avoiding loss of market share and loss of workforce through sensitization. It is possible that the producers of PPD will resist attaching warning memes to their products, as have the producers of tobacco products, “At the base of it all, however, is not a complex constitutional right, but the companies’ fear that the new labels will make customers “depressed, discouraged, and afraid” of their products. Sadly, that is exactly the point.”¹¹⁹¹

As an example, I offer a diagram of the memetic process of a warning meme becoming ‘truthy’ in local network environments:



Figure 98: Diagram of a *black henna warning meme organism* based on an image posted on Reddit.¹¹⁹²

The *PPD warning meme organism* will replicate into the network environment of the consumer if there is a regulatory requirement to bind a warning meme organism to any PPD product. As the warning replicates into users, it will evolve into their network environments. The warning meme may eventually become a ‘truthy.’ The truthiness will evolve differently in every network environment; the hosts in the network environments will have participated in the evolution of a

warning meme, simultaneously producing and consuming the meme. If the *PPD warning meme organism* replicates into the end user ‘black henna’ market, many solutions may evolve. These solutions to ‘black henna’ in local network environments may include substitution of a safer product or an acceptance of risk, but result will be produced by, evolved within, and acceptable to the local network environments.

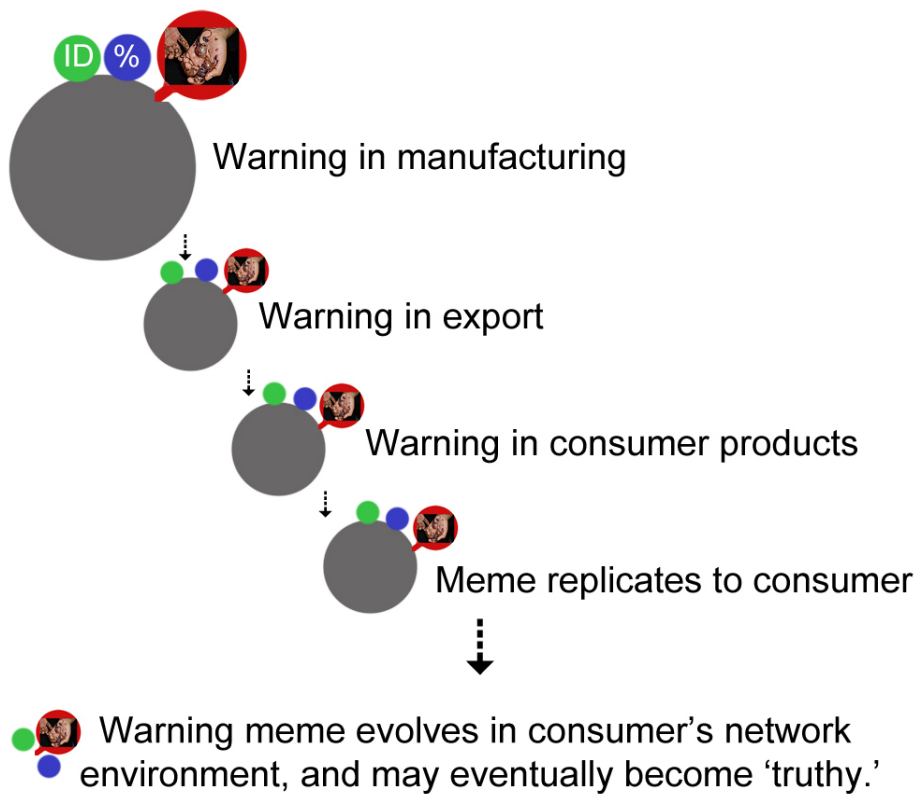


Figure 99: Diagram of a PPD warning meme carrying the DuPont warnings against skin exposure to PPD to the end user level.

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¹ Almeida, Pablo J., et al. 2012. "Quantification of p-phenylenediamine and 2-hydroxy-1,4-naphthoquinone in henna tattoos." *Contact Dermatitis* 66, no. 1:33-37.

² Kligman, A. M. 1966. "The identification of contact allergens by human assay; III, The maximisation test: a procedure for screening and rating contact sensitisers." *Journal of Investigative Dermatology*; 47:393-409.

³ Star Tribune. July 2, 2011. "Temporary tattoos put blisters on metro kids" Star Tribune, Minneapolis, MN.

<http://www.startribune.com/local/124797314.html> (accessed December 12, 2014)

About half of the children who got the tattoos on June 7 had skin reactions, including blistering and weeping lesions, according to the state Health Department. In most cases, the lesions appeared within 20 days and half appeared within seven days.

⁴ English, R. November 9, 2011. "Camilla gets the Royal tattoo (but don't worry, it's only henna)" *Daily Mail*, The Mail on Sunday & Metro Media Group, Published by Associated Newspapers Ltd

<http://www.dailymail.co.uk/femail/article-2058926/Duchess-Cornwall-Camilla-takes-dance-floor-Prince-Charles-Zanzibar.html> (accessed November 9, 2011)

⁵ Counted from Google returns on the query 'Camilla henna' accessed on November 25, 2011

⁶ English, R. November 9, 2011. "Camilla gets the Royal tattoo (but don't worry, it's only henna)" *Daily Mail*, The Mail on Sunday & Metro Media Group, Published by Associated Newspapers Ltd

<http://www.dailymail.co.uk/femail/article-2058926/Duchess-Cornwall-Camilla-takes-dance-floor-Prince-Charles-Zanzibar.html> (accessed November 9, 2011)

"The Duchess of Cornwall is not one for alternative fashions - but it looks as though her trip to Africa has brought out a different side to her. Camilla showed off an interesting tattoo on her palm today as she continued her eight-day Commonwealth tour in Zanzibar. But thankfully for the rest of the Royal family, it was henna ink and will likely fade in a day or two."

⁷ English, R. November 9, 2011. "Camilla gets the Royal tattoo (but don't worry, it's only henna)" *Daily Mail*, The Mail on Sunday & Metro Media Group, Published by Associated Newspapers Ltd

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⁸ English, R. November 16, 2011. "I've scrubbed and scrubbed but it won't come off!" Camilla's anguish over Henna tattoo given to her on Tanzania trip ahead of state banquet." *Daily Mail*, The Mail on Sunday & Metro Media Group, Published by Associated Newspapers Ltd <http://www.dailymail.co.uk/femail/article-2062346/Camilla-Parker-Bowles-Henna-tattoo-given-Tanzania-trip-wont-come-off.html>

(accessed November 16, 2011)

“When she agreed to be inked with a henna tattoo on an official visit to Tanzania last week, the Duchess of Cornwall was assured that it would only last a day or two. Unfortunately nine days later she is still trying to scrub the thing off. On an engagement at Clarence House on behalf of the Unicorn children’s theatre, the elaborately swirled inking could still clearly be seen on her left hand. Asked about it by the Mail, Prince Charles’s wife exclaimed: ‘The less said about that the better! ‘I didn’t feel that I could refuse and it was rather beautiful but then, after I had it done, this lady put her hand on mine and splodged it everywhere. ‘I just can’t get it off. I have tried scrubbing and everything...nailbrushes, you name it. I just don’t know what to do.’ The Duchess said she was particularly keen to rid her hand of the marking as she has a series of very public engagements coming up, including a lavish state banquet at Buckingham Palace thrown by the Queen in honour of the Turkish President where tiaras are a more traditional form of adornment.”

⁹ English, R. November 16, 2011. ‘I’ve scrubbed and scrubbed but it won’t come off!’ Camilla’s anguish over Henna tattoo given to her on Tanzania trip ahead of state banquet.” *Daily Mail*, The Mail on Sunday & Metro Media Group, Published by Associated Newspapers Ltd <http://www.dailymail.co.uk/femail/article-2062346/Camilla-Parker-Bowles-Henna-tattoo-given-Tanzania-trip-wont-come-off.html> (accessed November 16, 2011)

¹⁰ Blunt, A., Gruffudd, P., May, J., Ogborn, M., Pinder, D., 2003, *Cultural Geography in Practice*, p.1 Edward Arnold LTD.

“When you know that its aim is to provide a representation of the cultural experience of young Bengali women in London you might try to understand its visual and textual signs and symbols in these terms. What we see if a woman stitching together different materials – blue denim and red silk – associated with ‘West’ and ‘East’. The woman’s henna-patterned hands and bracelets suggest the pleasures of celebrations, while the sewing machine’s associations are with the sort of poorly-paid work that many Bengali women in Britain do at home or in small factories.”

¹¹ Azua, M. “Yellow Hands” (wind sock sculptures of hennaed hands) Martinazua.com. 2008. (<http://www.martinazua.com/eng/lab/yellow-hands/>) (accessed December 29, 2012)

“Yellow Hands

Yellow Hands represents the unrecognized work of millions of people worldwide. Many of the products consumed in Europe mask shameful stories of sweat shops in Asia. This project brings to light this reality in a playful way that is open to interpretation. The intervention consists of Koinobori flags in the form of hands. These floating hands are installed in the banks of the river Amstle where the wind always blows.

“These hands of air could be a protest against any problem. In Amsterdam they stand against sweat shop labour but they could be used against the discrimination of women or the deforestation in the Amazon.”

Martín Azúa, 2008

Proposal for Urban Play

Droog Design, Amsterdam 2008

¹² Maira, S., 2000. “Henna and Hip Hop: The Politics of Cultural Production and the Work of Cultural Studies.” *Journal of Asian American Studies* - Volume 3, Number 3 pp. 329-369.

¹³ Foucault, M. (1966b) *Utopie et littérature* [Utopia and Literature], recorded document, 7 December. Centre Michel Foucault, Bibliothèque du Saulchoir, reference C116.

¹⁴ Soja, Edward W. 1996. *Thirdspace*. Malden (Mass.): Blackwell, p. 57

¹⁵ Johnson, Peter. 2006. "Unravelling Foucault's 'different spaces'." *History Of The Human Sciences* 19, no. 4: 75-90. *Academic Search Complete*, EBSCOhost (accessed October 2, 2012).

¹⁶ Oldenburg, R. 1991-99. *The Great Good Place*, New York: Paragon House, 1991. 3rd Edition with photo update published in 1999, New York: Marlowe and Company.

¹⁷ Brooks, S., Spierenburg, M., Van Brakel, L., Kolk, A., , and Lukhozi, K. 2011. "Creating a Commodified Wilderness: Tourism, Private Game Farming and 'Third Nature' Landscapes in Kwazulu-Natal." *Tijdschrift Voor Economische En Sociale Geografie [Journal Of Economic & Social Geography]* 102, no. 3: 260-274. *Academic Search Complete*, EBSCOhost (accessed October 2, 2012).

¹⁸ Oldenburg, R. 1991-99. *The Great Good Place*, New York: Paragon House, 1991. 3rd Edition with photo update published in 1999, New York: Marlowe and Company.

¹⁹ Soja, Edward W. 1996. *Thirdspace*. Malden Mass. Blackwell. p. 84

²⁰ Wearing, Stephen, and Simon Darcy. 2011. "Inclusion of the "Othered" in Tourism." *Cosmopolitan Civil Societies: An Interdisciplinary Journal* 3, no. 2: 18-34. p. 19 *Academic Search Complete*, EBSCOhost (accessed October 13, 2012).

²¹ Wearing, Stephen, and Simon Darcy. "Inclusion of the "Othered" in Tourism." *Cosmopolitan Civil Societies: An Interdisciplinary Journal* 3, no. 2 (April 2011): 18-34. p. 20. *Academic Search Complete*, EBSCOhost (accessed October 13, 2012).

²² Donlon, J. G., Donlon, J. H., and Agrusa J. (June 2010): "Cultural Tourism, Camel Wrestling, and the Tourism 'Bubble' in Turkey." *Anatolia: An International Journal Of Tourism & Hospitality Research* 21, no. 1 29-39.

²³ Cater, C., and Cloke, P. 2007. "Bodies in action." *Anthropology Today* 23, no. 6: 13-16. *Academic Search Complete*, EBSCOhost (accessed December 25, 2011).

"It is interesting to observe that adventurous places are typically perceived and marketed as marginal locations, frequently rural, that form an alternative to the highly developed West. The reality is that these are as much part of the global system as the places where the participants originate. What is important is that these places 'look' as if they are at the 'edge of the world', as this look adds to that feeling of

adventure without compromising the 'safe' regulatory frameworks that holiday-makers have come to expect."

²⁴ Jen Rock, "Henna, Stone Town, Zanzibar" Stone Town, Zanzibar West, TZ." March 9, 2010. Uploaded to *Found Objects, Kenya & Tanzania Photostream*, Flickr, April 16, 2011).

http://www.flickr.com/photos/jen__rock/5624668400/ (accessed January 14, 2012)

²⁵ "Camilla jokes new tattoo 'will look good' at the royal wedding." Hello! Royalty and Statesmen. April 07, 2011.

hellomagazine.com <http://www.hellomagazine.com/royalty/201104075223/camilla-duchess-of-cornwall/prince-charles/morocco/> (accessed December 19, 2011)

"It's a traditional part of Moroccan culture, but a henna tattoo might not sit so well at a British royal wedding. So The Duchess of Cornwall may be hoping the new body art that she acquired during her trip to Morocco will rub off in time for her stepson's upcoming nuptials. Whilst touring the ancient town of Fez, Camilla embraced local culture and had an orange water flower design applied to her right index finger. Told by the tattoo artist that it can last up to two weeks, Camilla joked: "This will look good at the wedding."

²⁶ Fez City. 2010. "Camilla gets a henna tattoo in Fez" <http://www.fezcite.com/camilla-gets-a-henna-tattoo-in-fez.html> (accessed January 17, 2012)

"Arriving at a table where a henna artist was working, the Duchess sat down.

"Ah," she said, rather nervously, after being told by artist Mina Amori, 32, that the tattoo can last up to two weeks.

"But the Duchess shrugged her shoulder and held out her right index finger. She sat smiling as the design of an orange water flower in the traditional Fez regional style was painted on in a matter of minutes. "This will look good at the wedding," she said later with a giggle to a reporter. The tattoo should be gone before Prince William marries Kate Middleton at Westminster Abbey in 23 days' time.

"Afterwards, the Duchess continued her tour of the cafe, shaking hands with her left hand as the henna paste dried on her right. The royal couple are in Morocco at the end of a 10-day tour which has also seen them visit Portugal and Spain. The trip has focused on the environment, inter-faith relations and trade."

²⁷ Matulich, J., and Sullivan, J. 2005. "A temporary henna tattoo causing hair and clothing dye allergy." *Contact Dermatitis* (01051873) 53, no. 1: 33-36. Academic Search Complete, EBSCOhost (accessed December 18, 2011).

²⁸ Wurstbauer, K., Sedlmayer, F., Kogelnik, H. D. 2001. "Skin Markings in External Radiotherapy by Temporary Tattooing with Henna: Improvement of Accuracy and Increased Patient Comfort." *International Journal of Radiation Oncology • Biology • Physics* Vol. 50, No. 1, pp. 179–181, 2001

²⁹ Etty44. Comment, "Re: beware of black henna tattoos" Aug 12, 2011 posted to *Tanzania Forum*, TripAdvisor, accessed December 19, 2011, http://www.tripadvisor.com/ShowTopic-g293747-i9226-k4723357-o10-beware_of_black_henna_tattoos-Tanzania.html

³⁰ Fariha Osmani. "I love Henna! (Front) My beautiful Arabic henna design! it's among my most favorite Eid celebrations. ^_^" August 30, 2011. Uploaded to *Iftar and Eid Set. Oman*, Flickr August 30, 2011.

<http://www.flickr.com/photos/62242396@N04/6095785479/in/photostream/> (accessed January 17, 2012)

³¹ Spider Girl. Saturday, December 23, 2006. "Spider on the Road, The Henna Incident Saturday September 10, 2005, WARNING: DO NOT EVER USE BLACK HENNA" *blogspot.com*

<http://spidergirlontheroad.blogspot.com/2006/12/henna-incident.html> (accessed December 19, 2011)

³² Office of Chief Government Statistician, Zanzibar 2009 "Household Income"

<http://www.ocgs.go.tz/documents/CHAPTER%209.pdf> (accessed December 19, 2011)

³³ Spider Girl. "The Henna Incident. September 10, 2005. WARNING: DO NOT EVER USE BLACK HENNA." Posted to *Spider on the Road*, Saturday, December 23, 2006. *blogspot.com*

<http://spidergirlontheroad.blogspot.com/2006/12/henna-incident.html> (accessed December 19, 2011)

³⁴ Vicky. Comment, "Black Henna" posted to *The Henna Page Discussion Forum* July 27, 1997, accessed December 19, 2011,

<http://web.archive.org/web/20010309004733/http://www.hennapage.com/henna/discuss/messages/332.html>

"I have read a number of requests for black henna on this site and I just want to add that I KNOW for a fact that you can get a deep black color. When I lived in Egypt I had one foot and ankle done by a Sudanese woman. I left the paste on for about an hour then picked it off. I didn't have to re-wet the paste at all. The design stayed DARK black for over a month. I am very pale so that may have something to do with it. Unfortunately I don't know what the paste was made of. If anyone knows of this black paste (I desperately want some) or if anyone has any Sudanese friends could you please find out what it is made of. Thank you."

³⁵ Lynn Santure. July 10, 1997 "Re: How to get black henna..." posted to *The Henna Page Discussion Forum*. *hennapage.com*.

<http://web.archive.org/web/20010729071727/http://www.hennapage.com/henna/discuss/messages/242.html>

(accessed December 19, 2011)

"In Tunisia they use a mixture of (I think) kohl, some kind of not, and cloves. It makes a thin type or "tar-like" paste and sits on the skin and is certainly black. My skin broke out twice after having it done to my hands twice and it does not spread as easy as henna paste does, so most of the designs are limited to dot patterns. But they are beautiful all the same."

³⁶ Maria. Comment, "Henna Tattoo" posted to *Bali Travel Forum* May 29, 1988, accessed December 19, 2011, <http://www.balitravelforum.com/archives/199805/13156.html>

"Has anyone had a henna tattoo that has reacted badly?. I was in Bali at beginning of May and I had a dolphin on my arm. Two weeks later it started fading and I cleaned it off with alcohol. It immediately got

itchy and swelled. That was two weeks ago. It is now a big blister. Has anyone experienced this and does it scar?"

³⁷ Dupont. 2011. "p-Phenylenediamine (PPD) 1,4-Benzenediamine. Product Description and Uses" *DuPont*. 2011 http://www2.dupont.com/Specialty_Chem_Intermediates/en_US/products/ppd.html (accessed December 19, 2011)

³⁸ Gunasti, Suhan, and Varol Lutfu Aksungur. (March 2010): "Severe inflammatory and keloidal, allergic reaction due to para-phenylenediamine in temporary tattoos." *Indian Journal Of Dermatology, Venereology & Leprology* 76, no. 2 165-167. Academic Search Complete, EBSCOhost (accessed November 26, 2011).

³⁹ Spider Girl. "The Henna Incident. September 10, 2005. WARNING: DO NOT EVER USE BLACK HENNA." Posted to Spider on the Road, Saturday, December 23, 2006. [blogspot.com](http://spidergirlontheroad.blogspot.com/2006/12/henna-incident.html) <http://spidergirlontheroad.blogspot.com/2006/12/henna-incident.html> (accessed December 19, 2011)

⁴⁰ Spider Girl. "The Henna Incident. September 10, 2005. WARNING: DO NOT EVER USE BLACK HENNA." Posted to *Spider on the Road*, Saturday, December 23, 2006. [blogspot.com](http://spidergirlontheroad.blogspot.com/2006/12/henna-incident.html) <http://spidergirlontheroad.blogspot.com/2006/12/henna-incident.html> (accessed December 19, 2011)

⁴¹ Zanzilandholidays. August 11, 2011 "Tanzania Forum: beware of black henna tattoos 3. Re: beware of black henna tattoos" 2011 TripAdvisor LLC http://www.tripadvisor.com/ShowTopic-g293747-i9226-k4723357-Beware_of_black_henna_tattoos-Tanzania.html (accessed December 19, 2011)

⁴² PPD (P-Phenylenediamine). Xuzhou Kitco Chemical Co., Ltd. Jiangsu, China <http://www.tradeindia.com/fp1170069/PPD-P-Phenylenediamine-.html> (accessed November 25, 2013)

We are offering our customers a wide range of PPD (P-Phenylenediamine), which are available following Specifications :-

Product name: PPD (P-Phenylenediamine, Para Phenylenediamine)

CAS No.:106-50-3

Appearance: White flake, lump

MF: C₆H₈N₂

Purity : 99.9%,99.5%,95%

Moisture: 0.1% max

Melting point: 138centigrade

HS Code: 2921519090

Use: This compound is used in almost every hair dye on the market, regardless of brand. The darker the colour, usually, the higher the concentrations. Some of the so-called "natural" and "herbal" hair colours, while ammonia-free, contain PPD. Some products sold as henna have PPD added, particularly "black henna. " Using body art-quality (BAQ) pure henna, or indigo, is the only way to avoid PPD in hair dye. PPD is used in the manufacture of aramid plastics and fibers such as Kevlar as well as substituted p-phenylenediamines that are used as antiozonants in rubber. PPD is also used as a developing agent in the C-41 color photographic film development process, reacting with the silver grains in the film and creating the colored dyes that form the image.

Packing: 40kg drum, 11.6mts/20FCL, 50kg drum, 14.5mts/20FCL

⁴³ Brancaccio, R. R; Brown, L. H; Chang, Y. T.; Fogelman, J. P; Mafong, E. A; Cohen, D. E. 2002. "Identification and quantification of para-phenylenediamine in a temporary black henna tattoo." *American Journal of Contact Dermatitis*, no. 13, 15–18

⁴⁴ Lichtenstein, A. L. "Piko in Paje – ancient Swahili lady lessons on pleasure and pain." posted to *Contrary*, February 17, 2011, accessed January 16, 2012, <http://blog.contrarymagazine.com/2011/02/piko-in-paje-%E2%80%93-ancient-swahili-lady-lessons-on-pleasure-and-pain/>

⁴⁵ Rasdien, P. "The dangers of holiday tattoos" *The West Australian* July 7, 2011.

<http://au.news.yahoo.com/thewest/lifestyle/a/-/lifestyle/9801076/the-dangers-of-holiday-tattoos/> (accessed December 24, 2011)

⁴⁶ Sonen, G. 2007. "Type IV hypersensitivity reaction to a temporary tattoo." *Baylor University Medical Center Proceedings Dallas, TX*.

"PPD's potency as an allergen is directly related to the concentration and duration of direct exposure. Previous studies showed that skin patch testing of .01% PPD for 15 minutes elicited no reaction. Increasing the concentration to 1.0% caused reactions in 37.5% of subjects. Using the 1.0% concentration for a 120-minute exposure increased the reaction rate to 69%. One study found that a 10% PPD solution sensitized 100% of the test subjects. Black henna tattoo inks have been found to have PPD concentrations as high as 15% to 30%."

⁴⁷ Star Tribune. July 2, 2011. "Temporary tattoos put blisters on metro kids" *Star Tribune*, Minneapolis, MN.

<http://www.startribune.com/local/124797314.html> (accessed December 24, 2011)

"About half of the children who got the tattoos on June 7 had skin reactions, including blistering and weeping lesions, according to the state Health Department."

⁴⁸ Minnesota Department of Health. 2011. "Additives Used in Henna Tattoo Materials – Potential Health Concerns Questions and Answers" *Minnesota NorthStar*

<http://www.health.state.mn.us/news/pressrel/2011/henna063011.html> (accessed December 24, 2011)

"MDH has been investigating reports of allergic skin reactions in a group of 35 Twin Cities eighth-graders who had been given temporary tattoos using a dark-colored material. About half of the children had skin reactions, which included blistering and weeping lesions. In most cases, the lesions appeared within 20 days of getting the tattoo, and half occurred within 7 days."

⁴⁹ Etty44. August 11, 2011; ERM3509. Sep 09, 2011; SaZimTanz. Sep 13, 2011. "Tanzania Forum: beware of black henna tattoos" TripAdvisor LLC http://www.tripadvisor.com/ShowTopic-g293747-i9226-k4723357-o20-Beware_of_black_henna_tattoos-Tanzania.html

(accessed December 19, 2011)

“My 3 kids each got a black henna tattoo whilst in Zanzibar, the girls on their wrist and my 12 yr old son a larger one on his arm.

Perhaps about 2- 3 wks after they had it done (it's painted on) my son got weepy blisters and spots on his arm, and one daughter got minor marks.

‘When I checked online about this I got a unpleasant shock...there is no such thing as black "henna" and what was used is a nasty toxin, that as well as causing bad skin reactions- even scarring-can also cause liver and kidney damage.

‘It seems that they are now "sensitised" to this toxin, and forever more need to be vigilant not to get exposed to it in other forms, eg hair dyes, some rubber products and some clothing dyes. It can cause anaphylactic shock.

‘I was incredulous to read on the side of a hair dye at the supermarket "Do not use without 48 hour patch testing if you have ever had a black henna tattoo at any time in your life, even if a long time ago"

‘My son has been to the doctor and treated with antibiotics for the rash, but it's not his skin I am worried about. The blood test did not reveal anything untoward, but i am still uneasy for the 3 of them ...and the teenage girls are upset about the hair dye ramifications.

‘I may look into whether "detoxing" with a naturopath works on things like this because the doctor is happy enough that the blood test is clear.

‘I can't believe after all my fussing about their safety and mosquito protection etc etc I let this happen!! However judging by the number of people we saw with black henna tattoos, we are not alone in our ignorance. I don't believe the problems are connected with natural brown henna, but I suggest everyone do their research before getting henna tattoos.’

ERM1509, “My 8 & 18 year old daughters both got these 'black henna' tattoo as well, just 2 days before you posted this. The doctor gave a topical cortisone ointment, but did not blood test. What did the blood test you doctor do look for?”

SaZimTanz: “My 7-year-old son got a black-and-red "henna" tattoo at the spa at Mtoni Marine, Zanzibar and developed a blistering rash after 2 or 3 weeks, only where the black lines had been. With topical cortisone it subsided into itchy welts, which he still has (this is now a month after application). Alerts should also go out to visitors to UAE, see: ncbi.nlm.nih.gov/pmc/articles/PMC2872353/. The concentrations of PPD in "black henna" are many times that permissible in hair dyes in EU and North America -- where gloves are required to use the dyes and they are illegal to apply to skin. This means getting "black henna" on your skin is a pretty severe toxic exposure. It is the opposite of the "spa" concept...healthy, natural, relaxation....”

Viljoen_Chris-Marie, “I had the same thing on my arm, got a pretty awesome henna tattoo on my arm in Dakar, Senegal...and then I got a pretty bad skin infection due to the massive blisters on my arm!!! It's been a year now and I still get random infections in the area where the tattoo was...bummer!!! But it left a pretty cool scar and thus a pretty cool story to tell. But beware, it was NO fun going to the doctor and explaining what happened.....”

⁵⁰ Milano, A., and E. Bonifazi. 2011. "GENERALIZED ALLERGIC CONTACT DERMATITIS AFTER HENNA TATTOO." *European Journal Of Pediatric Dermatology* 21, no. 1: 55. Academic Search Complete, EBSCOhost (accessed December 18, 2011).

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- ⁵¹ Minnesota Department of Health. 2011 "Additives Used in Henna Tattoo Materials – Potential Health Concerns Questions and Answers" *Minnesota NorthStar* <http://www.health.state.mn.us/topics/skin/henna.html> (accessed December 24, 2011)
- ⁵² Duodora. February 11, 2009. (Uploaded to Flickr February 11, 2009) "Henna-ish-stuff; I think it was actually called pika or something like that. My toe nails are still dyed black >.< (3 or 4 months later)" *Moshi, Tanzania Photostream*. <http://www.flickr.com/photos/29235428@N03/3273216081/> (accessed January 16, 2012)
- ⁵³ Donlon, J. G., Donlon, J. H., and Agrusa, J. 2010. "Cultural Tourism, Camel Wrestling, and the Tourism 'Bubble' in Turkey." *Anatolia: An International Journal Of Tourism & Hospitality Research* 21, no. 1 (June 2010): 29-39.
- ⁵⁴ Onder, M. 2003. "Temporary holiday"tattoos" may cause lifelong allergic contact dermatitis when henna is mixed with PPD." *Journal Of Cosmetic Dermatology* 2, no. 3/4: 126-130. Academic Search Complete, EBSCOhost (accessed December 18, 2011).
- ⁵⁵ Kluger N, Raison-Peyron N, Guillot B . 2008. [Temporary henna tattoos: Sometimes serious side effects.] *La Presse Médicale*. Jul-Aug;37 (7-8):1138-42. Epub 2008 Mar 7 (accessed December 24, 2011)
- ⁵⁶ Matta, C. "Tanzania June 2008: This Korean girl was sitting next to me on the flight to Dar es Salam. She had her arms and hands henna-ed." June 14, 2008. Uploaded to *CM f5.6's Photostream*, Stone Town, Zanzibar West, TZ., Flickr, July 9, 2008. <http://www.flickr.com/photos/ciarli/2652036485/> (accessed January 14, 2012)
- ⁵⁷ McFadden. J, Yeo, L., White, J. (2011) "Clinical and experimental aspects of allergic contact dermatitis to paraphenylenediamine." *Clinics In Dermatology* [serial online]. May 2011;29(3):316-324. Available from: Academic Search Complete, Ipswich, MA. (Accessed December 23, 2011).
- ⁵⁸ Wakelin, S. H., Creamer, D., Rycroft, R J., White, I R., and McFadden, J. P. 1998. "Contact dermatitis from paraphenylenediamine used as a skin paint." *Contact Dermatitis* 39, no. 2: 92-93. MEDLINE Complete, EBSCOhost (accessed October 26, 2013).
- ⁵⁹ Grey-beard Loon. "Henna Treatment. Mauritania," January 30, 2008. Uploaded to *Gray-beard Loon's Photostream*, Flickr, February 15, 2008. <http://www.flickr.com/photos/48801868@N00/2267125140/> (accessed January 14, 2012)
- ⁶⁰ Demirci, G. T., Altunay, I. K., Atis, G., Kucukunal, A. Dec 19, 2011. Allergic contact dermatitis mimicking angioedema due to paraphenylenediamine hypersensitivity: a case report. *Cutaneous and Ocular Toxicology*. [Epub ahead of print] *Dermatology*, Sisli Etfal Training and Research Hospital, Istanbul , Turkey.

“Active sensitization to paraphenylenediamine (PPD) and related compounds from temporary black henna tattoos has become an epidemic in the recent years. Hair dyes also include PPD like black henna tattoos which cause allergic contact dermatitis. Skin lesions of allergic contact dermatitis from PPD are mostly seen as an exudative erythema, an erythema multiforme-like eruption or a bullous contact dermatitis. We, herein, report a 27 year-old woman with an angioedema-like reaction occurring after the first exposure to hair dye who was unaware of being previously sensitized to PPD from black henna tattoo.”

⁶¹ Jacob, S. E., Zapolanski, T., Chayavichitsilp, P. 2008. “Sensitivity to para-phenylenediamine and intolerance to hydrochlorothiazide.” *Dermatitis*. 2008 Nov-Dec;19(6):E44-5.

“Para-Phenylenediamine (PPD) is a contact allergen that cross-reacts with a variety of medications, including thiazide diuretics and sulfonamides.

⁶² Meisenheimer, J. L. M.D. 2004. “P-Phenylenediamine” [WWW.OrlandoSkinDoc.com](http://www.orlandoskindoc.com)
<http://www.orlandoskindoc.com/test.p%20phenylenediamine.htm> (accessed December 20, 2011)

“This patient information on P-Phenylenediamine is provided by John L. Meisenheimer, M.D. a board certified Dermatologist and skin care specialist based in Orlando, Florida. This information is not intended as a substitute for the medical advice or treatment of a dermatologist or other physician.

“The results from your patch testing showed a positive reaction (contact allergy) to p-Phenylenediamine. Your immune system reacts with its defense mechanisms with each exposure of p-Phenylenediamine to your skin. It is unknown why certain individuals develop allergic sensitivities. In some it may take repeat exposures over long periods of time before an allergy develops. Once you have become sensitized (allergic) your immune system always "remembers" and you will continue to be p-Phenylenediamine sensitive. If you currently have eczema this chemical may be the cause but other factors may play a role as well. The information below will help you avoid this allergen.

“This chemical agent is the primary ingredient in permanent hair dyes.

‘Where is chemical found?

- ▶ Black rubber
- ▶ Cosmetics (dark colored)
- ▶ Fabric dyes
- ▶ Fur dyes
- ▶ Gasoline
- ▶ Greases
- ▶ Lithography (printing inks)
- ▶ Oils
- ▶ Permanent hair dyes
- ▶ Photocopying ink
- ▶ Photographic developer
- ▶ Plastic
- ▶ Printing ink

‘Hints on avoiding chemical:

- ▶ Ask your hairdresser for dyes free of p-phenylenediamine.
- ▶ Hairdressers use vinyl gloves to protect hands from contact when using hair dyes.
- ▶ Check for use in dark colored clothing (blue, black or brown).
- ▶ Individuals that have sensitivity to this chemical may also cross react with PABA containing sunscreens, Benzocaine and "sulfa" drugs.
- ▶ Let your primary physician you have an allergy to para phenylenediamine.

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- ▶ Choose products listed only on your personalized contact allergen database, which has been provided to you. Products listed on your contact allergen resource database will be free of p-Phenylenediamine and safe to use.
 - ▶ It may take 2 to 3 weeks of avoiding exposure before improvement of your eruption begins.

‘Other names you may see this chemical listed as:

- 1,4 Benzenediamine
- 1,4 Phenylenediamine
- 4-Phenylenediamine
- C.I. 76076
- Orsin
- Para-aminoaniline (p-aminoaniline)
- Para-diaminobenzene
- Paraphenylenediamine (PPD or PPDA)
- Phenylenediamine base
- Rodol D
- Ursol D

‘Possible Occupational Exposure
Hairdressers and cosmetologists

⁶³ Temesvári, Erzsébet, Beáta Podányi, Györgyi Pónyai, and Ilona Németh. 2002. "Fragrance sensitization caused by temporary henna tattoo." *Contact Dermatitis* (01051873) 47, no. 4: 240. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

⁶⁴ Simpson-Dent, S. L., Hunt, S. H., Davison, S. C., and Wakelin, S. H.. 2001. "Tattoo dermatitis from primary sensitization to clothing dyes." *Contact Dermatitis* (01051873) 45, no. 4: 248. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

⁶⁵ Worsnop, F. S., Craythorne, E. E., Vivier, A. W. P., 2011. "A blistering eruption after a holiday in India" *BMJ* 2011; 343:d7474 <http://www.bmj.com/content/343/bmj.d7474> (Accessed December 21 2011)

Products containing paraphenylenediamine (PPD) and PPD related compounds

Azo dyes

Semi-permanent and temporary hair dye, ink, petrol, diesel fuel, and some food colourings

Drugs

Benzocaine, carbutamide, hydrochlorothiazide, 4-aminobenzoic acid (antituberculous drug), 4-aminosalicylic acid, sulfonamides

⁶⁶ Demirci GT, Altunay IK, Atis G, Kucukunal A. Dec 19, 2011. "Allergic contact dermatitis mimicking angioedema due to paraphenylenediamine hypersensitivity: a case report." *Cutaneous and Ocular Toxicology*. [Epub ahead of print] Dermatology, Sisli Etfal Training and Research Hospital, Istanbul , Turkey.

⁶⁷ Redlick, F., and deKoven, J. 2007. "Allergic contact dermatitis to paraphenylenediamine in hair dye after sensitization from black henna tattoos: a report of 6 cases." *CMAJ: Canadian Medical Association Journal* 176, no. 4: 445-446. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

⁶⁸ Broides A, Sofer S, Lazar I. 2011 "Contact dermatitis with severe scalp swelling and upper airway compromise due to black henna hair dye." *Pediatric Emergency Care*, 2011 Aug;27(8):745-6 Pediatric Emergency Department, Ben-Gurion University, Be'er-Sheva, Israel.

⁶⁹ Curiousleigh. "Henna. Melanie's henna sandals!" October 18, 2010. Uploaded to Morocco 2010 photostream, Flickr, October 24, 2010. <http://www.flickr.com/photos/leighstandley/5110025616/in/photostream/> (accessed January 19, 2012)

⁷⁰ Roberts, A. "Aneesha's sister painting henna on Bethan's arm." January 31, 2011. Uploaded to *Pondspider's Photostream, Goa-February 2011*, Flickr, May 26, 2011) <http://www.flickr.com/photos/pondspider/5761121269/> (accessed January 22, 2012)

"Annesha is one of the Lambadi beach sellers who works on Majorda Beach in Goa. My family has known her for over 20 years. My mother first met her as a small girl. She described her as bright, beautiful and full of life. Aneesha was keen to learn English and would sit with my mother and talk. A few years later she got married. Aneesha seemed happy that her husband, "did not beat her much." She had two sons and then a daughter.

"Aneesha's earning power as a beach trader outstripped her husband's as a daily labourer and he felt it was not worthwhile working and he could live on his wife's earnings. He began to drink and violence towards Aneesha began to increase.

"The first tragedy occurred when Aneesha's daughter died. Her husband refused to look after the baby when she was working and Annesha paid a girl in her village to watch her. The girl dropped the baby on her head and she died shortly afterwards.

"Aneesha's husband continued to beat her and demand money for drink. Running from a particularly severe beating, Aneesha jumped into a well to escape him. He followed. She was sober and came out again. He drowned.

"It seemed possible that Aneesha might be blamed for his death but fortunately the Goan police did not pursue it. Life for young widowed women is not easy and Aneesha had to live with her mother in law in order to stay safe.

"Since that time Aneesha has been working singlehandedly to bring up her sons. She never went to school and is illiterate but worked tirelessly to ensure that her sons received an education.

"Last week she told me proudly that her eldest son, who is nearly 18 is still at school and is hoping to go to college. Her younger son is also still at school.

"What she has achieved despite her circumstances is incredible. This year is proving difficult for her and the other beach girls. Apparently the local shopkeepers, fearing that the beach girls are taking their trade, have paid the police to ensure that they are not allowed to trade. If they are caught selling on the beach their goods get confiscated and can only be reclaimed in Panjim. The beach girls have to store their goods away from the beach and carry only a very small amount.

Annesha is probably about 32 or 33 but years of hardship and walking the beaches have taken their toll."

⁷¹ Messina, M. G. 1991. "Gratifying the Body: Henna, Shaban and Body Decorating; Celebrations of the Body: Spirituality and Corporeality in Muslim Morocco." PhD Diss, State University of New York (SUNY) at Stony Brook, Stony Brook, New York

⁷² Kapchan, D. 1993. *Moroccan Women's Body Signs* / Deborah Kapchan Bodylore / edited by Katharine Young Knoxville : University of Tennessee Press, c1993

⁷³ Kapchan, D. 1996 *Gender on the Market: Moroccan Women and the Revoicing of Tradition*. University of Pennsylvania Press. Philadelphia, PA.

⁷⁴ Kapchan, D. 1997 *Tradition and Transgression in Moroccan Women's Marketplace Oratory*. In R. Bekkar, C. David and H. Davis, Eds. *Espaces Publics et Paroles Publiques Dans Les Villes Arabes*. Paris: Harmattan.

⁷⁵ Wedoud, M. 2011. "Tradition challenges job creation in Mauritania." *Magharebia* http://magharebia.com/cocoon/awi/xhtml1/en_GB/features/awi/features/2011/02/25/feature-03 (accessed January 16, 2012)

⁷⁶ Lichtenstein, A. L. "Piko in Paje – ancient Swahili lady lessons on pleasure and pain." Posted to *Contrary*, February 17, 2011, accessed January 16, 2012, <http://blog.contrarymagazine.com/2011/02/piko-in-paje-%E2%80%93-ancient-swahili-lady-lessons-on-pleasure-and-pain/>

"I'm a big fan of henna & piko designs, especially the bibi harusi (bridal) style, which resembles hand-painted, intricate black lace with orange accents on your feet, legs, hands, and arms. If you're really getting married, I've heard they even paint your inner thighs, back, or chest. The whole idea is to feel sexy and attractive. Henna's that natural paint made from crushed leaves & oils and the history of henna is ancient. Piko is actually Chinese black-hair dye powder mixed with water, a newer phenomenon, a bit toxic, but still a favourite look in Zanzibar. I'm sometimes prone to acidic burns on my legs from piko, but I love the dark black inky look, and bear the pain."

⁷⁷ Testerman, M. "United Arab Emirates, Ras al Khaimah; Ivarey, local beauty salon getting henna tattoos." June 25, 2008. Uploaded to Megh Testerman's Photostream, Flickr, June 27, 2008, <http://www.flickr.com/photos/northrose/2616665362/> (accessed January 16, 2012)

⁷⁸ Almeida, Pablo J., Leopoldo Borrego, Elisenda Pulido-Melián, and Oscar González-Díaz. 2012. "Quantification of p-phenylenediamine and 2-hydroxy-1,4-naphthoquinone in henna tattoos." *Contact Dermatitis* (01051873) 66, no. 1: 33-37. Academic Search Complete, EBSCOhost (accessed December 18, 2011).

⁷⁹ Al Harithi, F. "Artificial henna dealers come under surveillance" *Omani Daily Observer* May 25, 2011.

<http://main.omanobserver.om/node/52328> (accessed January 16, 2012)

"We are closely monitoring the incidence of the health issues caused by the black henna being imported to the country and are in touch with the Muscat Municipality and Ministry of Commerce and Industry, and the Customs Department", Dr Issa Said al Shuaili (pictured), Head, Department of Environmental and Occupational Health Section at the Ministry of Health told the Observer.

"If the presence of any hazardous chemical in these consumer products is found, we'll subject the same for detailed chemical analysis in our laboratory in Qurum and will visit the outlets seeking clarification from the shop keeper while with the product literature will be checked for toxicity".

It has been brought to light that a strong organic compound, 'p-Phenylenediamine (PPD)' with the chemical formula C₆H₄(NH₂)₂, has been used as an ingredient in black henna to derive desired colour results and the same has been causing health issues such as allergy, rashes, blisters to the users in Oman.

The Muscat Municipality has issued a press statement alerting all henna dealers and users alike, the recently. This chemical content is usually used in the hair dyer in minimal quantity to enhance black colour.

The same content has been used in artificial black henna to enhance the colour and is sold by departmental stores and is widely used by the beauty parlours across the country, besides the individual users.

This perilous substance in black henna affects the skin and cause allergy, swelling and tumours in the tissue and may lead to a drop in blood pressure. Inhalation of this substance can also cause suffocation and formation of vesicles watermark and permanent scars on the skin.

Sometimes, it can even affect the immune system on contact skin directly.

"Severe punitive measures can be taken against those who violate the Sultanate's public health norms", Dr Issa added, adding "it can vary from confiscation of products to cancellation of trade licence according to the severity of the case and this part is solely taken care by the Consumer Protection department at the Ministry of Commerce and Industry".

Henna is one of the ancient traditions of the Arab world and especially of Oman. It is an essential part in the marriage customs for several generations since thousands of years."

⁸⁰ Abdulla, K. A. 1996. "A woman who collapsed after painting her soles." *Lancet* 348, no. 9028:658-658.

"In December, 1993, a 40-year-old Saudi Arabian woman who had been well during the day, suddenly became breathless in the evening, and was taken to a local clinic. She had to have an endotracheal tube inserted in the ambulance during transfer to hospital, where she was still severely hypoxic despite high-flow oxygen. There were fine crepitations bilaterally up to the mid-zones, and profuse, clear, frothy sputum requiring repeated suction, but no evidence of cardiac failure, angio-oedema, or bronchospasm. A chest radiograph showed patchy bilateral basal consolidation without cardiomegaly. She was admitted to intensive care, ventilated, and treated for pulmonary oedema of unknown cause. All routine investigations were normal. Her chest radiograph became normal within 24 hours, and her endotracheal tube was removed within 48 hours.

"Questioning then revealed that after dinner on the evening of admission she had applied henna to her feet (figure), and had begun to apply it to her left palm and it was then that she had suddenly become breathless. She had often used henna before, but had never experienced any similar episodes. On this occasion, she used a henna hair-dye mixture prepared by a neighbour, who told her that it was a special preparation, but it proved impossible to obtain exact details of the constituents. She recovered fully and went home 2 days later."

⁸¹ Hassan IB, Islam SI, Alizadeh H, Kristensen J, Kambal A, Sondag S, Bernseen R M. 2009. "Acute leukemia among the adult population of United Arab Emirates: an epidemiological study" *Leukemia and Lymphoma*. 2009 Jul;50(7):1138-47.

"The implication of cumulative risk factors to which females could be exposed, such as vitamin D deficiency as a result of sunlight deprivation and direct exposure to benzene and color enhancement chemicals in henna, could not be excluded and warrant further investigation.

⁸² "'Black henna' linked to harmful chemical - Ministry of Environment" *The National: News from the UAE*. February 19, 2009.

http://www.daijiworld.com/news/news_disp.asp?n_id=57004&n_tit=U.A.E.+%3A+%91Black+henna%92+linked+to+harmful+chemical+---+Ministry+of+Environment (accessed January 16, 2012)

⁸³ Sheraton Hotels and Resorts. "Sheraton Bahrain Hotel—Culture Henna, Property Amenity. Block 316, Manama, Capital, BH." April 1, 2011. Uploaded to *Sheraton Hotels and Resorts Photostream*, Flickr, April 1, 2011. <http://www.flickr.com/photos/sheratonhotels/5580937226/> (accessed January 16, 2012)

⁸⁴ Tissier, G. August 2007. (uploaded to Flickr August 15, 2007) "gorgeous henna" *Tscapice's photostream*. <http://www.flickr.com/photos/tscapice/1125332056/sizes/o/in/photostream/> (accessed January 17, 2012)

⁸⁵ Robbins, J. R. "Henna's on Venice Beach; Micaela's henna," July 4, 2007. Uploaded *Superchica's photostream* July 5, 2007. Flickr <http://www.flickr.com/photos/stjenna/728948406/> (accessed January 16, 2012)

⁸⁶ Department of Health and Human Services Centers for Disease Control and Prevention National Institute for Occupational Safety and Health (2010) "Skin Notation (SK) Profile p-Phenylene diamine (PPD) [CAS No. 106-50-3]" http://www.cdc.gov/niosh/docket/review/docket153A/pdfs/A-22.SKProfile_PPD.pdf (Accessed December 10, 2011)

"PPD: Chemical: p-Phenylene diamine (PPD), Molecular weight (MW): 108; Molecular formula: C₆H₈N₂; Structural formula: Synonyms: PPD; 1,4-diaminobenzene; p-diaminobenzene; 4-aminoaniline; 1,4- benzenediamine. Uses: p-Phenylene diamine (PPD) is used primarily as a fur and hair dye and as a chemical intermediate in the production of numerous substances, including dyes and polymers" [HSDB 2009]."

⁸⁷ FDA US Food and Drug Administration. US Department of Health and Human Services. April 18, 2001; Updated September 18, 2006. "Temporary Tattoos & Henna/Mehndi". *U. S. Food and Drug Administration Center for Food Safety and Applied Nutrition Office of Cosmetics and Colors Fact Sheet*.

<http://www.fda.gov/Cosmetics/ProductandIngredientSafety/ProductInformation/ucm108569.htm> (accessed

December 19, 2011)

“Since henna typically produces a brown, orange-brown, or reddish-brown tint, other ingredients must be added to produce other colors, such as those marketed as "black henna" and "blue henna." So-called "black henna" may contain the "coal tar" color p-phenylenediamine, also known as PPD. This ingredient may cause allergic reactions in some individuals. The only legal use of PPD in cosmetics is as a hair dye. It is not approved for direct application to the skin.”

⁸⁸ Health Canada. “Consumer Information: PPD IN “BLACK HENNA” TEMPORARY TATTOOS IS NOT SAFE.” *Health Canada Consumer Product and Safety*. 2008. http://www.hc-sc.gc.ca/cps-spc/alt_formats/hecs-sesc/pdf/pubs/cons/black_henna-henne_noir-eng.pdf (accessed December 19, 2011)

⁸⁹ Thomas, J. 2011 “Salons ignore ban on harmful henna” *The National* <http://www.thenational.ae/news/uae-news/health/salons-ignore-ban-on-harmful-henna> (accessed December 19, 2011)

⁹⁰ Schwarzkopf and Henkel K. K. “Peacock Black Hair Dye Powder” Tokyo 140-0002, Japan <http://www.schwarzkopf-henkel.co.jp/en/peacock.html> (accessed December 19, 2011)

“Currently distributed in Saudi Arabia, U.A.E., and Republic of Yemen”

⁹¹ Zanzilandholidays. August 11,2011 “Tanzania Forum: beware of black henna tattoos 3. Re: beware of black henna tattoos” TripAdvisor LLC http://www.tripadvisor.com/ShowTopic-g293747-i9226-k4723357-Beware_of_black_henna_tattoos-Tanzania.html (accessed December 19, 2011)

⁹² Sally Beauty Supply LLC. “Bigen Hair Color Oriental Black #59.” Sallybeauty.com, 2011. <http://www.sallybeauty.com/hair-color/SBS-199004,default.pd.html> (accessed December 19, 2011)

⁹³ Saaffan, W. “Arabic Henna Body Art and Tattoo For Wedding Night” posted to *Stylish Eve*, 2010, accessed December 19, 2011. <http://www.stylisheve.com/arabic-henna-body-art-and-tattoo-for-wedding-night/>

⁹⁴ Abdulla, K. A.; Davidson, N. McD. 1996. “A woman who collapsed after painting her soles.” *Lancet*, 09/7/96, Vol. 348 Issue 9028, p658, 1p, 1c

“... expatriates in Saudi Arabia will have previously used pPD at home, and some probably bring it in from time to time (as powder or as black stony lumps).

⁹⁵ Author’s collection. I have obtained two samples of ‘henna stone’ from colleagues, one from a Bedouin tourist camp and another from a market in Turkey.

⁹⁶ Riffat. Comment, "Henna in Egypt," posted to Open Henna Circle Forum. HennaTribe.org, 2010, accessed December 19, 2011.

<http://hennatribe.org/viewtopic.php?p=101545&highlight=&sid=f39fe38937d17db162e7c4fbef53d144>

"In a Nubian village in Aswan I found a beautiful henna tree in full bloom, such a shame that they apply only black henna then to tourists. I got tricked into believing that the henna a Nubian woman was about to do on me was natural and made from the leaves of the same tree but sadly although it was henna, it was mixed with what she said was a black rock????"

⁹⁷ Amunez International.. "ABOUT AMUNEZ COLORS." *Amunez International World Headquarters:*

Nusa Dua, Bali, Indonesia. Amunez.com. 2000

<http://web.archive.org/web/20000129230030/http://amunez.com.au/colors.html> (accessed December 19, 2011)

"Amunez Paint Ingredients: ethyl cellulose, methosulfate, titanium dioxide, distearoylethyl hydroxyethylmonium, methylparaben, cetearyl alcohol, cetareth-20, and may contain: iron oxide, p-phenylendiamine, C11623, C115510, C145410, C144090, C142510, C111055, C156059, C112719, carmine, 4-hydroxypropylamino-3-nitrophenol. POISON. This product is not edible."

⁹⁸ Amunez. 2011. "SALE OF AMUNEZ INTERNATIONAL" *Amunez International World Headquarters:* Nusa

Dua, Bali, Indonesia. <http://www.amunez.com/index.htm> (accessed December 19, 2011)

"AMUNEZ INTERNATIONAL is no longer able to offer its range of products to the general public."

⁹⁹ Amunez. "Where To Get Your Amunez Tattoo" *Amunez International World Headquarters:* 2000. Nusa Dua,

Bali, Indonesia. <http://web.archive.org/web/20000131055429/http://amunez.com.au/where.html> (accessed

December 19, 2011)

- GERMANY - HAWAII - ENGLAND - SINGAPORE - SOUTH AFRICA- CHILE-BE"Is there an AMUNEZ TEMPORARY TATTOO STUDIO near you? INDONESIA - AUSTRALIA - IRELAND - ITALY - JAPAN - FRANCE - NEW ZEALAND - HOLLAND - GREECE - CANADA - HONG KONG - SWITZERLAND LGIUM-KOREA- MALAYSIA"

¹⁰⁰ Ibid: <http://web.archive.org/web/20000131001632/http://amunez.com.au/tporder.html>

¹⁰¹ Ibid: <http://web.archive.org/web/20000902201744/http://www.amunez.com/>

¹⁰² Black Henna Kits. 2001 "Payment Methods" Black Henna Kits, Inc

<http://web.archive.org/web/20020131173626/http://www.blackhennakits.com/information.htm> accessed (December

19, 2011) Black Henna Kits, P.O. Box 450801, Sunrise, FL 33345, (954) 326-9211

¹⁰³ Black Henna Kits. "To Contact Us" Black Henna Kits, Inc. 2011. <http://blackhennakits.com/contact.htm>

(accessed December 19, 2011)

"Black Henna Kits, 33 Harbour Bay Shopping Plaza, East Bay St. Suite 1230, Nassau, Bahamas

¹⁰⁴ Dupont, (2011) "p-Phenylenediamine (PPD) 1,4-Benzenediamine Product Description and Uses" Copyright © 2011 DuPont. http://www2.dupont.com/Specialty_Chem_Intermediates/en_US/products/ppd.html (accessed December 19, 2011)

¹⁰⁵ Rainbowwarrior. "hair dye allergy reaction" posted to *PHOTOBLOG* myFlickr, June 3, 2009. <http://dangeroushairdye.blogspot.com/2009/06/june-32009-hair-dye-allergy-reaction.html> (accessed January 14, 2012)

¹⁰⁶ Marazzi, P. MD. September 15, 2009. "Henna Tattoo Reaction" *WebMD® Better information. Better Health.* Photo Researchers Inc. <http://www.webmd.com/healthy-beauty/picture-of-henna-tattoo-reactions> (accessed January 15, 2012)

"The Food and Drug Administration has received complaints from people who have received products marketed as henna temporary tattoos, especially so-called "black henna," at places such as salons and kiosks at beaches and fairs. There have been reports of allergic reactions, skin irritations, infections, and even scarring. "Black henna" may contain the added "coal tar" color, p-phenylenediamine, also known as PPD, which can cause allergic reactions in some people. Henna itself is made from a plant and typically produces a brown, orange-brown, or reddish-brown tint."

¹⁰⁷ Sonnen, G. "Type IV hypersensitivity reaction to a temporary tattoo." *Proceedings (Baylor University. Medical Center)*, v. 20 issue 1, 2007, p. 36-8.

"A 6-year-old boy developed a skin eruption 10 days after application of a temporary tattoo advertised as a "natural black henna tattoo." The eruption was a delayed hypersensitivity reaction to the tattoo ink. The textile dye paraphenylenediamine (PPD) is a common industrial allergen and can be found in some temporary tattoo inks."

¹⁰⁸ US National Library of Medicine National Institutes of Health search query, PubMed.gov: <http://www.ncbi.nlm.nih.gov/pubmed?term=henna> (Accessed December 24, 2011) over 100 positive returns in addition to 250 papers I have collected through KSU online library resources and other sources.

¹⁰⁹ "Temporary tattoos put blisters on metro kids" *Star Tribune*, Minneapolis, MN. July 2, 2011. <http://www.startribune.com/local/124797314.html> (accessed December 24, 2011)

"About half of the children who got the tattoos on June 7 had skin reactions, including blistering and weeping lesions, according to the state Health Department."

¹¹⁰ Milano, A., and Bonifazi, E. 2011. "Generalized Allergic Contact Dermatitis after Henna Tattoo." *European Journal Of Pediatric Dermatology* 21, no. 1: 55. *Academic Search Complete*, EBSCOhost (accessed December 18, 2011).

¹¹¹ Onder, M. 2003. "Temporary holiday"tattoos" may cause lifelong allergic contact dermatitis when henna is mixed with PPD." *Journal Of Cosmetic Dermatology* 2, no. 3/4: 126-130. Academic Search Complete, EBSCOhost (accessed December 18, 2011).

¹¹² Molz, J. G. 2010. "Performing Global Geographies: Time, Space, Place and Pace in Narratives of Round-the-World Travel." *Tourism Geographies* 12, no. 3: 329-348. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

¹¹³ English, R. "Camilla gets the Royal tattoo (but don't worry, it's only henna)" Daily Mail, November 9, 2011. <http://www.dailymail.co.uk/femail/article-2058926/Duchess-Cornwall-Camilla-takes-dance-floor-Prince-Charles-Zanzibar.html> (accessed November 9, 2011)

¹¹⁴ Cartwright, R.Y. 2003. "Food and waterborne infections associated with package holidays." *Journal Of Applied Microbiology* 94, 12-24. Academic Search Complete, EBSCOhost (accessed December 24, 2011).

¹¹⁵ Herbinger, K.-H., C. Siess, H. D. Nothdurft, F. von Sonnenburg, and T. Löscher. 2011. "Skin disorders among travellers returning from tropical and non-tropical countries consulting a travel medicine clinic." *Tropical Medicine & International Health* 16, no. 11: 1457-1464. Academic Search Complete, EBSCOhost (accessed December 24, 2011).

¹¹⁶ Vidani, P. "So What, Pepeng Kidlat?" posted to *isang blog. Ano pa?!* <http://pepengkidlat.tumblr.com/post/203221598/henna-tattoo-allergy-day-3-now-on-day-3-of-the> (accessed February 5, 2014)

"Now on day 3 of the henna allergy incident and boy the skin's erupted already! Did some reading yesterday and found out that henna is never supposed to be black and that a pigment is usually added to darken the substance. It's this pigment that causes the malady! The medicine the doctor gave yesterday has so far relieved the itching, but I was hoping for some improvement on the skin rash and redness which, sadly, could not be immediately seen. Here's a picture of what it looks like now... Again, I should have learned my lesson from two years back. So for the rest of you out there... be careful! Apparently, some of the effects don't come out until after a week of the tattoo!"

¹¹⁷ Author's collection, 2003, Black Henna artist in Greece

¹¹⁸ Onder, M. 2003. "Temporary holiday"tattoos" may cause lifelong allergic contact dermatitis when henna is mixed with PPD." *Journal Of Cosmetic Dermatology* 2, no. 3/4: 126-130. Academic Search Complete, EBSCOhost (accessed December 24, 2011).

"Six cases of allergic contact reaction to temporary tattoos are reported. In all cases, the responsible agent was PPD. Two were also allergic to black'henna' hair dye which also contained PPD. They had been sensitised on earlier holidays by their temporary tattoos. Temporary holiday tattoos may cause lifelong

contact allergy. Although the allergenicity of pure henna is low, the allergenicity of PPD is high. Holiday 'tattoo' reactions are going to be common until PPD is removed from the mixture."

¹¹⁹ Michelle. Comment, "Tattoo over Imprint left from a black Henna design??" posted to *The Henna Page Discussion Forum*, February 22, 2000, accessed October 26, 2013,

<http://web.archive.org/web/20010516233146/http://www.hennapage.com/henna/discuss/messages/15435.html>

"I too had problems in August '99, when I got a black henna tattoo on my arm. Well, I had some allergic reaction to it, and went to see a doctor as I was advised by members of this message board to do. The doctor told me that for people of color (I am a black female), henna causes the pigment of our skin to change, long after the Henna is gone. She then advised me that it could take anywhere from 6 to 9 months for it to fade. I do not have a scar. And if it didn't, I could then try bleaching cream (I don't want to do that)."

¹²⁰ Zegarska, B.; Woźniak, M.; Zegarski, W.; Romańska-Gocka, K.; Kaczmarek-Skamira, E. 2006. "Case report Complications following black henna tattoo cosmetic procedure." *Postępy Dermatologii i Alergologii* 2006; XXIII, 6: 278–281

"Para-phenylenediamine (PPD) is often added to achieve a more definite colour, which may be a cause of a variety of undesirable skin changes. We will introduce a case of an 18-year-old patient who had a tattoo made by an accidental person by means of black henna and next went swimming in the sea followed by a couple of hours sunbathing without any sun protection. As result he developed erythema at the site of the tattoo and the sensation of itching and burning. The changes became markedly aggravated which led to the formation of lesions along the tattoo. Skin changes were accompanied by increase of temperature and general malaise symptoms."

¹²¹ Darral, S. "Boy, 6, left with burn along length of arm after having henna tattoo while on holiday." *MailOnline*. September 16, 2011. <http://www.dailymail.co.uk/news/article-2038199/Cade-Bailey-6-left-agony-henna-tattoo-burns-arm.html> (accessed January 27, 2012)

"We were back at home and the henna had faded, so his arm was completely clear. 'But he came out of school and said "Mummy, look at my arm" I lifted his sleeve and saw this red, raised bump. It's very painful for him and it's burning hot to the touch. I gave him antihistamine cream and tablets and took him to the doctors, but they weren't aware of what it was. It was only when I did some research on the internet that I learned about the hair dye they use which can cause this reaction."

¹²² Vasilakis, V., Knight, B., Lidder, S., Frankton, S., 2010. "Severe type IV hypersensitivity to 'black henna' tattoo." *BMJ Case Reports* 2010; doi:10.1136/bcr.09.2009.2277

¹²³ Das, S. 2000. "Henna tattoos reaction to additives rather than to Henna" "Minerva" *BMJ* Fri, 2000-12-01 <http://www.bmj.com/rapid-response/2011/10/28/henna-tattoos-reaction-additives-rather-henna> (Accessed December 26, 2011)

"EDITOR - In response to the Minerva picture described as a "Henna reaction". Henna tattoos are becoming increasingly popular in Western countries as a "safe" alternative to permanent tattooing.

Traditionally Henna is used in Asia and the Middle East as decoration particularly at marriages. Henna dye is obtained from the leaves of the tree *Lawsonia inermis*. The longer henna is put on the skin, the darker the resulting colour. Temporary henna tattoos contain varying amounts of certain compounds to hasten the darkening process namely scented oils and p-phenylenediamine (PPD). This process makes the tattoos particularly appealing as they are less time consuming and easier to apply. Contact Dermatitis to henna is rarely reported with the allergy being related to the colouring material itself, hydroxynaphthoquinone². Thus the main allergens in temporary henna tattoos are the additives particularly PPD and scented oil, not henna itself³. It is important to be aware of this as clinicians as henna tattoos are becoming increasingly fashionable. We are seeing increasing numbers of cases of temporary henna tattoo reactions acquired abroad, particularly the Mediterranean countries.”

¹²⁴ Sleath, J. 2000. “Minerva” *BMJ* Volume 321 11 November 2000 bmj.com (Accessed December 26, 2011)

“While on holiday in Turkey an 8 year old boy decided to have a “henna tattoo” on his back. The pattern is made using a vegetable dye and usually rubs off after a couple of weeks. In his case, the dye triggered acute dermatitis with erythema, vesiculation, and irritation. By the time he returned home the irritation was starting to subside, but the image of the “ little devil” he had chosen was still clearly visible. His brother had a tattoo at the same time but had no reaction. Jonathan Sleath, general practitioner, Kingstone, Herefordshire HR2 9EY”

¹²⁵ timetoshine008. Posted to Photobucket. “Gettin my henna tattoo”

<http://i17.photobucket.com/albums/b84/timetoshine008/MVC-882S.jpg> (accessed January 21, 2012)

¹²⁶ Ateljevic, Irena. 2000. "Circuits of tourism: stepping beyond the 'production/consumption' dichotomy." *Tourism Geographies* 2, no. 4: 369-388. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

¹²⁷ Kitty_amora. “Getting a henna tattoo.” April 25, 2008. Uploaded to *Bali*, Photobucket.

http://i188.photobucket.com/albums/z166/kitty_amora/Bali%20-%20Indonesia/IMG_4377.jpg (accessed January 21, 2012)

¹²⁸ Woodlouse. “Henna Tattoo” May 4, 2007. Uploaded to *Woodlouse’s Morocco May 2007 Photostream*, Flickr, July 14, 2007 <http://www.flickr.com/photos/woodlouse/803555712/> (accessed January 21, 2012)

“henna tattoo. this tattoo artist in the square grabbed me after she tattooed sarah's leg. I hadn't realised that she and sarah had been arguing over the price, so I ended up paying for both of us! (and I didn't get to choose my design...) also, is this the carcinogenic black henna? I don't know. I hope not for the tattoo lady's sake.”

¹²⁹ Aoyama, Y. 2009. "Artists, Tourists, and the State: Cultural Tourism and the Flamenco Industry in Andalusia, Spain." *International Journal Of Urban & Regional Research* 33, no. 1: 80-104. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

¹³⁰ Ateljevic, Irena. 2000. "Circuits of tourism: stepping beyond the 'production/consumption' dichotomy." *Tourism Geographies* 2, no. 4: 369-388. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

“Moreover, since tourist imagination about the places around the world usually ‘constructed and sustained through a variety of non-tourist practices, such as TV, literature, magazines, records and videos’ production and consumption of tourist experiences circulating within the circuits are framed by the wider (con)texts

which create demand for tourism consumption. Meanings of tourist experience constantly shift as they are constructed at different levels of representation and in the processes of interaction where the cultural context of listeners will be selective and layered by their own interpretations. Illustrative example of consumers becoming 'producers' can be given with respect to tourists' collections of tangible memories as they come back home from their trips with trinkets, artefacts and photos for the future 'evaluation' of their experience. By displaying these in their living room or making slide-shows 'about the great time they had while away' consumers do not only play an active role in tourism (re)production but also transform these meanings and incorporate them into their everyday life and material context, creating a source of inspiration for producers to 'consume'. Producers and consumers negotiate in this communication in the constant act of interpretation, consuming the (con)text and (re)producing circuits. This clarifies how the distinction between production and consumption becomes tenuous."

¹³¹ Aoyama, Y. 2009. "Artists, Tourists, and the State: Cultural Tourism and the Flamenco Industry in Andalusia, Spain." *International Journal Of Urban & Regional Research* 33, no. 1: 80-104. Academic Search Complete, EBSCOhost (accessed December 26, 2011).

"Although normative views on cultural tourism typically emphasize the pervasiveness of 'cultural imperialism', in which the global always subsumes the local, this view has now increasingly been criticized for its one-sided stress on the detrimental effects of tourism on local communities and culture. In fact, evidence from around the world suggests that arguments can be made in favour of the positive role of tourists in the viability of an art complex. Some even suggest that the production of art for outsiders can have positive impacts on the community's self-identity and heightens the value of indigenous Creativity."

¹³² Van Maarseveen, S., October 22, 2007. (uploaded to Flickr photostream) "Henna Schilderingen Handen en armen laten beschilderen met henna ter viering van het einde van Ramadan" in *Sandra's Travels, Zanzibar, October Set*. <http://www.flickr.com/photos/sandrastravels/1686365605/in/photostream/> (accessed January 14, 2012)

¹³³ Wearing, Stephen, and Simon Darcy. 2011. "Inclusion of the "Othered" in Tourism." *Cosmopolitan Civil Societies: An Interdisciplinary Journal* 3, no. 2: 18-34. Academic Search Complete, EBSCOhost (accessed December 18, 2011).

¹³⁴ Daily Mail Reporter. "Teenager gets holiday henna tattoo to tease his mother, and ends up scarred for life." *Mail Online*, October 16, 2010, <http://www.dailymail.co.uk/news/article-1321074/Teenager-gets-holiday-henna-tattoo-tease-mother--ends-scarred-life.html> (accessed January 6, 2012).

"A teenager who ended up in hospital for five nights after getting a fake tattoo to tease his mother could need skin grafts. Luke Schofield, 17, got five stars painted on his left arm in henna ink, while he was on holiday in Spain. The next day his arm felt sore before the stars began to swell and blister. Three days later after he returned home he was admitted to hospital and hooked up to a drip. Doctors at Tameside General discovered the ink contained a banned chemical which caused a serious infection. Luke, from Stalybridge, Greater Manchester, is now waiting to see a plastic surgeon to find out if he needs skin grafts to cover the scars.

He said: 'I just got the tattoo to tease my mum. My brother got a real tattoo when he went to Greece and she went mad. 'It was fine for a day and then it started to get a bit sore. My arm swelled up and blistered and my thumb and fingers on my left arm got tingly and numb. I got a sharp pain down my arm and that side

of my body. I've got to see a plastic surgeon. It's serious. I'd say to other people it's not worth the risk.' Doctors told Luke he had reacted badly to PPD, a dye that makes henna ink black.”

¹³⁵ Alvin Gumba. “Tattoo. These local tourists display their henna tattoo.” May 26, 2007. Uploaded to *Philippines Photostream*, Alvin Gumba Photography. Flickr October 12, 2007.

<http://www.flickr.com/photos/alvingumbaphotography/1552068329/> (Accessed January 19, 2012)

¹³⁶ Wilkins, Hugh. "Souvenirs: What and Why We Buy." *Journal Of Travel Research* 50, no. 3 (May 2011): 239-247. *Academic Search Complete*, EBSCOhost (accessed January 5, 2012).

¹³⁷ Garnhum, P. “Temporary Tattoo on Kuta Beach ‘Dae Han Min Gook’” July 31, 2005. uploaded to *Peter Garnhum’s Photostream*, Flickr, August 12, 2005. <http://www.flickr.com/photos/petergarnhum/33324901/> (accessed January 14, 2012)

¹³⁸ Cater, CA., and Cloke, P. 2007. "Bodies in action." *Anthropology Today* 23, no. 6: 13-16. *Academic Search Complete*, EBSCOhost (accessed December 25, 2011).

¹³⁹ kdynamic. February 20, 2007. (uploaded to Flickr photostream March 1, 2007)” sIMG_3160 Eli got a henna tattoo” *Bali-Benoa photo set*. (accessed January 14, 2012)

¹⁴⁰ Astrobi. “Egypt: a Henna Scarab.” May 23, 2011. Uploaded to *Egypt, the Nile Cruise Photostream*, Flickr, Jun3 13, 2010. http://www.flickr.com/photos/_bri_/4698769810/ (accessed January 14, 2012)

¹⁴¹ Ramsay, N. "Taking-place: refracted enchantment and the habitual spaces of the tourist souvenir." *Social & Cultural Geography* 10, no. 2 (March 2009): 197-217. *Academic Search Complete*, EBSCOhost (accessed January 5, 2012).

¹⁴² Wilkins, Hugh. 2011. "Souvenirs: What and Why We Buy." *Journal Of Travel Research* 50, no. 3: 239-247. *Academic Search Complete*, EBSCOhost (accessed December 26, 2011).

¹⁴³ Maira, S. 2000. “Henna and Hip Hop: The Politics of Cultural Production and the Work of Cultural Studies” *Journal of Asian American Studies*, Volume 3, Number 3, October pp. 329-369 The Johns Hopkins University Press DOI: 10.1353/jaas.2000.0038

¹⁴⁴ Own, M. Post on Facebook wall. “Riffat, Kiran, Kim and Sharon arrive in Nurmahal, Punjab! — with Kiran Sahib Mehndi Artist, Riffat Bridal Specialist, Sharon Hanspal and Kim Brennan.” November 26, 2011, accessed January 14, 2012.

<https://www.facebook.com/photo.php?fbid=10150392446332648&set=p.10150392446332648&type=1&theater>

Sign board in Punjab advertising a street artist's services with pictures downloaded from British, Canadian, and US henna artists' online portfolios.

¹⁴⁵ Peace Correspondant. "A scene from Rethymno on the Greek island of Crete. This sidewalk "tattoo parlor" is popular with tourists." September 1, 2001. Uploaded to *Peace Correspondant's Photostream*, Flickr September 2, 2011. <http://www.flickr.com/photos/peacecorrespondent/6105720148/in/photostream/> (accessed January 14, 2012)

¹⁴⁶ Guzi, M. March 11, 2011 (uploaded to Flickr April 4, 2011) "Cpt. Sparrow" *miguzi's photostream*. http://www.flickr.com/photos/m_guzi/5588311713/ (accessed January 14, 2012)

¹⁴⁷ Almeida P J, Borrego L, Liminana J M. 2011. "Age-related sensitization to p-phenylenediamine." *Contact Dermatitis* 2011: 64: 172–174.

¹⁴⁸ Rover, W. 2010. "Rovinghorse Henna Events 2010" *Roving Horse Henna* http://www.rovinghorse.com/news_and_events.php (accessed January 14, 2012)

Website shows that the henna artist was scheduled to work at twenty-eight different events in different locations across five states between March and October.

¹⁴⁹ Matulich, J., and Sullivan, J. 2005. "A temporary henna tattoo causing hair and clothing dye allergy." *Contact Dermatitis* (01051873) 53, no. 1: 33-36. Academic Search Complete, EBSCOhost (accessed December 18, 2011).

"...reports severe allergic reactions to hair dye in multiple children. Five of the eight children were hospitalized and treated with systemic anti-histamines, corticosteroids, and antibiotics. Four of these five children had a history of temporary tattoo with subsequent skin reaction."

¹⁵⁰ Broides A, Sofer S, Lazar I. 2011 "Contact dermatitis with severe scalp swelling and upper airway compromise due to black henna hair dye." *Pediatric Emergency Care*, 2011 Aug;27(8):745-6 Pediatric Emergency Department, Ben-Gurion University, Be'er-Sheva, Israel.

¹⁵¹ Carroll, Sean T., Robert H. Riffenburgh, Timothy A. Roberts, and Elizabeth B. Myhre. 2002. "Tattoos and Body Piercings as Indicators of Adolescent Risk-Taking Behaviors." *Pediatrics* 109, no. 6: 1021. *Academic Search Complete*, EBSCOhost (accessed January 28, 2012).

¹⁵² Hicinbothem, Julie, Sonia Gonsalves, and David Lester. 2006. "Body Modification and Suicidal Behavior." *Death Studies* 30, no. 4: 351-363. *Academic Search Complete*, EBSCOhost (accessed January 28, 2012).

¹⁵³ Candy Bandit. "Marvel Spider-Man Candy Sticks w/Glow in the Dark Tattoo 24 Pack" Amazon.com. 2011. <http://www.amazon.com/Marvel-Spider-Man-Candy-Sticks-Tattoo/dp/B001M1GR30> (Accessed January 28, 2012)

"Product Description: The action is back with these fun super size boxes of candy sticks. Each pack comes with a cool glow in the dark tattoo."

¹⁵⁴ Allstar. 2010 "Disney Fairy Glitter Tattoos #3 AllStar for all your bulk vending needs." allstarvending.com.
<http://www.allstarvending.com/temporarytattoos/disneyfairiesglitter3.asp> (Accessed January 28, 2012)

"Perfect ... especially for children... fully FDA approved and safe for any age."

¹⁵⁵ Darral, S. September 16, 2011. "Boy, 6, left with burn along length of arm after having henna tattoo while on holiday." *MailOnline*. <http://www.dailymail.co.uk/news/article-2038199/Cade-Bailey-6-left-agony-henna-tattoo-burns-arm.html> (accessed January 27, 2012)

¹⁵⁶ Colorgrinder. "100_0165 Malta 2009" August 13, 2009. Uploaded to *Colorgrinder's Photostream*, Flickr, August 30, 2009. <http://www.flickr.com/photos/colorgrinder/3872077990/in/photostream/> (Accessed January 18, 2012)

¹⁵⁷ Colorgrinder. "Sam gets a tattoo. On holiday in Malta, Sam gets a henna tattoo." August 13, 2009. Uploaded to *Colorgrinder's Photostream*, Malta 2009, Flickr August 30, 2009.
<http://www.flickr.com/photos/colorgrinder/3871323219/> (accessed January 18, 2012)

¹⁵⁸ Colorgrinder. August 13, 2009. "Sam and David's New Tattoos. Malta 2009." Uploaded to *Colorgrinder's Photostream*, Flickr August 30, 2009. <http://www.flickr.com/photos/colorgrinder/3871330115/in/photostream/> (Accessed January 18, 2012)

¹⁵⁹ Almeida, Pablo J., Leopoldo Borrego, and José M. Limiñana. 2011 "Age-related sensitization to p-phenylenediamine." *Contact Dermatitis (01051873)* 64, no. 3 172-174. *Academic Search Complete*, EBSCOhost (accessed November 26, 2011).

¹⁶⁰ Name withheld by request. March, 2005. "Allergic reaction to PPD in hair dye" *hennaforhair.com*
<http://www.hennaforhair.com/ppd/ppdreaction/> (accessed January 25, 2012)

"I just went through a fright with my 16 year old son yesterday 48 hours after he and his sister dyed his hair with a hair dye kit, (brand name withheld), from our local pharmacy (name withheld). I'll start by telling the story as briefly as I can. Thursday Dec 30th, my 20 year old daughter dyed my 16 year old son's hair black at his request (and with my permission). They did not do a skin patch test (as will soon become apparent). He now tells me that at the time he experienced itching of his scalp.

"The next day Friday Dec 31, my son came to me with complaints that his head felt like someone was pulling out the hair by the roots. I examined his head (I am an RN - but I specialize in Labor and Delivery!) and found no evidence of redness or swelling - just some dye stains around his hairline as they didn't do a particularly neat job of dying him it appeared. After everything occurred - my son told me that while I was at work and he was with his friends (he slept over a friend's on New Years Eve) he felt like his head was "a little swollen" but he ignored it and did not take anything for it.

He awoke yesterday Jan 1 and immediately noticed that his head felt tight - looked in the mirror, panicked and came home to me. We immediately went to our local Urgent Care Center for treatment. They gave him (product names withheld)... all by mouth and sent us home for a prescription for (product name withheld) - he's to take 60 mg 1x/day for the next two days, then 50 mg for the next two days, and so on in decreasing dosage for a total of 12 days.

"He unfortunately continued to swell and we wound up in our local hospitals ED last night and at this time they dropped in an IV line and through that gave him more steroids (product name withheld) and as his airway wasn't compromised despite his giant head and neck, he was again sent home.

"This morning he doesn't seem to have expanded any further, and may in fact have decreased the tiniest of bits. He's actually sleeping still - I woke him to take meds then let him be.

"In retrospect, 3-4 years ago during a Caribbean cruise, my three children all got "henna tattoos" while on Grand Cayman Island. A week to ten days after getting his tattoo, my son came to me because his skin was all bubbly and red and raised in exactly the pattern of the tattoo. I took him to his pediatrician who prescribed (product name withheld) cream."

¹⁶¹ Onder, M. 2003. "Temporary holiday"tattoos" may cause lifelong allergic contact dermatitis when henna is mixed with PPD." *Journal Of Cosmetic Dermatology* 2, no. 3/4: 126-130. *Academic Search Complete*, EBSCOhost (accessed December 18, 2011).

¹⁶² Daily Mail Reporter. July 10, 2008. "Holiday henna warning as boy, 10, is scarred for life after tattoo goes horrifically wrong" *Mail Online*, part of the Daily Mail, The Mail on Sunday and Metro Media Group. Glam Entertainment. Associated Newspapers Ltd. <http://www.dailymail.co.uk/news/article-1033698/Holiday-henna-warning-boy-10-scarred-life-tattoo-goes-horribly-wrong.html> (Accessed January 28, 2012)

'I had my doubts about it but he was really insistent and I asked holidaymakers and the reps at the complex and they said it was fine, there was no problem.

¹⁶³ Avnstorp, C.; Rastogi, S. C.; Menné, Torkil. 2002. "Acute fingertip dermatitis from a temporary tattoo and quantitative chemical analysis of the product." *Contact Dermatitis* 47, 2:109-125.

¹⁶⁴ Daily Mail Reporter. "Seven-year-old boy, left burned, blistered and scarred by another henna 'tattoo' horror." *Mail Online*. August 26, 2010.

<http://www.dailymail.co.uk/news/article-1306308/Seven-year-old-boy-left-burned-blistered-scarred-henna-tattoo.html> (accessed September 9, 2013)

¹⁶⁵ Darral, S. "Boy, 6, left with burn along length of arm after having henna tattoo while on holiday." *Mail Online*. September 16, 2011. <http://www.dailymail.co.uk/news/article-2038199/Cade-Bailey-6-left-agony-henna-tattoo-burns-arm.html> (accessed January 27, 2012)

¹⁶⁶ Cartwright, R.Y. 2003. "Food and waterborne infections associated with package holidays." *Journal Of Applied Microbiology* 94, 12-24. *Academic Search Complete*, EBSCOhost (accessed December 24, 2011).

"Illnesses in package tourists that are contained within the holiday country are very rarely notified to the authorities in that country. Even when significantly large outbreaks have occurred there may be considerable pressure from hoteliers to prevent any formal notification as 'this may be bad for business'. Even if notification does occur local political pressures may prevent any further action being taken."

¹⁶⁷ Jonas, A., Mansfeld, Y., Paz, S., and Potasman, I. 2011. "Determinants of Health Risk Perception Among Low-risk-taking Tourists Traveling to Developing Countries." *Journal Of Travel Research* 50, no. 1: 87-99. *Academic Search Complete*, EBSCOhost (accessed December 24, 2011).

¹⁶⁸ Mainman2420. May 2, 2011 (posted to TripAdvisor bulletin board) "Marmaris Forum: Henna tattoos- Please read." *TripAdvisor* http://www.tripadvisor.com/ShowTopic-g298033-i793-k4443838-Henna_tattoos_Please_read-Marmaris_Mugla_Province_Turkish_Aegean_Coast.html (Accessed January 28, 2012)

"7. Re: Henna tattoos- Please read I know this didnt happen in Turkey but please read before you let anyone have one of these henna tattoos. A HOLIDAY giant looks set to pay out £10,000 after two South Derbyshire children were left with horrific burns from henna tattoos they had on holiday. Nine-year-old Connie Smith and her brother Tyler, 11, from Swadlincote, were offered £5,000 each from Thomson after Burton County Court ruled the firm was liable after letting an independent artist into the gated Jaz Mirabel Beach resort in Sharm El Sheikh, Egypt. The firm had previously offered just £250 each for their ordeal, which doctors say will leave them scarred for up to three years.

Mum Michelle, 35, said: "The children were approached while we were on holiday in 2009. "The workers from the complex said they could have cartoon characters tattoos, which we were told would be done with henna." Connie had a Hello Kitty design on her upper arm while Tyler had a large scorpion on his back.

Mrs Smith added: "Soon after, both tattoos began to blister and weep and they were also very red, inflamed and very painful for the children. "When we got home we realised how nasty the areas were getting and went to an out of hours GP service, where they were prescribed antibiotics, antihistamines and steroid cream to help with the healing. "We were then referred on to a dermatologist who found that that had become sensitised to a chemical called PPD and it was a life time sensitivity. "What they put onto their arms was 'black henna', which is a concentrated hair dye. "The sensitivity means they can never dye their hair, can't be hairdressers in the future and also have to avoid other chemicals. "I'm a nurse and I thought henna was safe — it's a 100 per cent natural plant dye. "I want to warn people on holiday to steer clear of these tattoos — you just don't know what's been put in the henna."

A spokesman for Thomson said: "We can confirm that an offer has been made to the Smith family with regard to the incident in question but we cannot divulge any further information than that. "But we can confirm that we have now banned the use of black henna at all of our Egypt hotels."

¹⁶⁹ Pleasance, C. "Schoolboys scarred for life after Henna tattoos they had during holiday to Egypt burnt into their skin." *Mail Online*. April 20, 2014. <http://www.dailymail.co.uk/news/article-2608944/Schoolboys-scarred-life-Henna-tattoos-holiday-Egypt-burnt-skin.html#ixzz31pFosLTV>

The full-time mother said: 'The boys had been asking for henna tattoos and I gave in and we had them done by the man running the gift shop in the hotel.

'We sat in the gift shop whilst he did them. Now I wish I had never let them have them done.

'As a parent I was mortified and devastated by what I saw. They had pussied and swelled up massively.

'I wish I had never let the boys have them. It was a huge mistake. I would ask any other parent to think twice before letting their children have them done.'

The mother, who has been locked in a three-year legal battle, added: 'I can't believe it has dragged on this long. The pain and suffering my boys have been through I wouldn't wish it on my worst enemy.

'But all that is compounded by Virgin and their reaction. Their behaviour has been awful and that have treated us with contempt throughout this process.

'They are in the wrong but they think they can drag this out and we will just go away. But it's just not right that they can allow this sort of thing to go on in their resorts then cover it up as if nothing ever happened.'

The family went for a week-long stay at the Movenpick El Solhna, in Egypt in April 2011, when Liam was 13 and Owen was just 11.

¹⁷⁰ Jacob, S., Brod, B. (2011) Paraphenylenediamine in Black Henna Tattoos: Sensitization of Toddlers Indicates a Clear Need for Legislative Action. *Journal Of Clinical & Aesthetic Dermatology* [serial online]. December 2011; 4(12):46-47. Available from: Academic Search Complete, Ipswich, MA. (Accessed December 23, 2011).

"There are hundreds of cases ranging from mild eczema to bullous reactions to scarring and permanent hypopigmentation reported, with increasing numbers being reported in younger children. Figures 1 and 2 show a 30-month-old child who received a dolphin tattoo while vacationing in Hawaii and developed a hypersensitivity reaction. With growing reports of sensitization, the American Contact Dermatitis Society (ACDS) awarded PPD the title of "2006 Allergen of the Year" to highlight the allergen and bring public awareness to the emerging patterns of exposure. In 2008, the ACDS and the American Academy of Dermatology, as a joint initiative, issued a health advisory warning. Since then, New Jersey introduced legislation to obtain parental consent for minors prior to receiving a black henna tattoo, Oklahoma introduced legislation to license henna tattoo artists, and the Florida Department of Health has a consumer advisory on the use of black henna that states that they will investigate reports of the application of black henna tattoos. Furthermore, the Centers for Disease Control and Prevention (CDC) has

listed PPD as an allergen. In the majority of U.S. states, there is no regulatory statute on artists who sell the tattoos at holiday resort venues. Furthermore, no national position statement or a

minimum proposed age restriction mandate for this practice has been made. This is concerning given that the direct application of the PPD to the skin (in cosmetic products) has been an act prohibited by the FDA since 1938, because it increases the potential for contact sensitization. According to the FDA, the only legal use for PPD in cosmetics is in hair dye. Because the

practice of henna tattooing with illicit PPD is so pervasive in the United States, an all out ban of this practice in minors by states would at least protect our vulnerable youth from exposure. Other needed initiatives include public education programs on the dangers of exposure to higher concentrations of PPD. The time is upon us to put into place protective laws placing specific rules regarding the sale or distribution of PPD laden temporary tattoo products and safeguard our children.”

¹⁷¹ Janssen, Diederik F. 2009. "'Where' 'boys' 'are': co-constructions of maturities-genders-bodies-spaces." *Children's Geographies* 7, no. 1: 83-98. Academic Search Complete, EBSCOhost (accessed January 28, 2012).

¹⁷² Di Landro, A.; Valsecchi, R.; Marchesi, L. 2005. “Allergic reaction with persistent hypopigmentation due to temporary tattooing with henna in a baby.” *Contact Dermatitis* 52, 6:338-339.

¹⁷³ Corrente, S, Moschese, V., Chianca, M., Graziani, S., Iannini, R., La Rocca, M., and Chini, L., 2007. “Temporary henna tattoo is unsafe in atopic children.” *Acta Paediatrica* 96, 3: 469-471.

¹⁷⁴ Daily Mail Reporter. July 10, 2008. “Holiday henna warning as boy, 10, is scarred for life after tattoo goes horribly wrong” *Mail Online*, part of the Daily Mail, The Mail on Sunday and Metro Media Group. Glam Entertainment. Associated Newspapers Ltd. <http://www.dailymail.co.uk/news/article-1033698/Holiday-henna-warning-boy-10-scarred-life-tattoo-goes-horribly-wrong.html> (Accessed January 28, 2012)

¹⁷⁵ Kligman, A.M. 1966. “The identification of contact allergens by human assay 3. The maximisation test: a procedure for screening and rating contact sensitizers.” *Journal of Investigative Dermatology*; 47:393–409.

¹⁷⁶ Almeida, Pablo J., et al. 2012. “Quantification of p-phenylenediamine and 2-hydroxy-1,4-naphthoquinone in henna tattoos.” *Contact Dermatitis* 66, no. 1:33-37.

¹⁷⁷ Almeida, Pablo J., Leopoldo Borrego, and José M. Limiñana. 2011 "Age-related sensitization to p-phenylenediamine." *Contact Dermatitis* (01051873) 64, no. 3 172-174. Academic Search Complete, EBSCOhost (accessed November 26, 2011).

¹⁷⁸ Jacob S., Brod B. 2011. “Paraphenylenediamine in Black Henna Tattoos: Sensitization of Toddlers Indicates a Clear Need for Legislative Action.” *Journal Of Clinical & Aesthetic Dermatology* [serial online]. December 2011; 4(12):46-47. Available from: Academic Search Complete, Ipswich, MA. (Accessed December 23, 2011).

"Kids make up a significant portion of the population that receives temporary tattoos, because parents mistakenly think they are safe, since they are not permanent and are available at so many popular venues catering to families. In fact, nothing could be further from the truth," Jacob said. "To date, there have been hundreds of reports of black tattoos causing allergic contact dermatitis, with reactions ranging from mild eczema to blistering and permanent scarring, she noted. Signs of an allergic reaction include redness and itching, bumps, swelling and blisters.”

¹⁷⁹ Locke, J. 1975. [1690]. *An Essay Concerning Human Understanding*. Edited by P. H. Nidditch. Oxford. Clarendon Press.

¹⁸⁰ Hobbes, T. 1962. [1651]. *Leviathan*, trans. W. G. Pogson-Smith. Oxford. Clarendon Press.

¹⁸¹ Afghan Women's Writing Project. 2009. Henna by Meena.

<http://awwproject.wordpress.com/2009/10/06/henna-by-meena/> (accessed December 15, 2012)

“The spicy scent of henna used to bring back memories of Eid, weddings, parties and all the happy occasions. Now, the only thing henna's smell brings me is the image of my mother and me crouched in the far corner of the kitchen, crying. The smell of henna brings back anger and sorrow, a sense of helplessness and weakness.

“I heard my mother crying. I brought my hands to my face. I could smell the henna in the palms of my hands. It smelled so different, so strange. It smelled like a happiness I was not granted. I ran to the kitchen. I sat in the corner, folding my legs, with my face buried in my hands. The smell of henna took me back to the days when my mother, sitting on the floor just out of shower, her wet hair hanging down, would paint henna in my little palms. She looked so focused, frowning with her forehead and yet she looked so innocent you would want to protect her from everything, from life itself. I would often run to her and hug her from the back. She did use perfume, but the smell of perfume was nothing compared to her own smell. She smelled like a mother, warm and kind. She would always tell me: “Now stop bothering me; go and change. I will fix you some lunch.”

I was still sitting in the kitchen when my mother entered. She wore a black scarf draped on her head. Her face looked as if her soul was not present. Her eyes were a little red from crying. I stood up, turned and cleaned my tears, pretending I had heard nothing. I said, “I will go get some logs,” avoiding her face. When I came back with the logs, I found her sitting on the floor of the kitchen with her face in her hands, sobbing. I put down the logs and hurried towards her. I put my arms around her and held her. We both were crying uncontrollably while hugging each other and the smell of henna was all in the air. We did not exchange a word, but the silence said it all.

Whenever I smell henna, it takes me back to the winter of 2002, to that same corner of the kitchen where my mother and I were sitting and crying, holding each other to protect each other from the harsh winds of life.”

¹⁸² Westermarck, E. 1926, *Ritual and Belief in Morocco, Vols. I and II* University Books, New Hyde Park, NY, reprinted from MacMillan, London

¹⁸³ Saksena, J. 1979. *Art of Rajasthan: Henna and Floor Decorations*. Delhi: Sundeep

¹⁸⁴ The Henna Page. 1997 – 2012. “The Henna Page Forum.” *hennapage.com* <http://www.hennapage.com/> (accessed January 28, 2012)

¹⁸⁵ BME. 2012. Body Modification Ezine. <http://www.bme.com/> (accessed January 28, 2012)

“We are an uncommon subculture and community built by and for modified people. We are the historians, practitioners and appreciators of body modification. We are the collaborative and comprehensive resource for the freedom of individuality in thought, expression and aesthetic. We serve you and ourselves as a

source of inspiration, entertainment and community. BME contains the personal experience of thousands of people all over the planet, in photo and text form. It serves to document the activities of the body modification community in as complete a fashion as possible.”

¹⁸⁶ Clustrmaps. 2012. “Clickable map of all visitors: www.hennapage.com (dates and country totals below)”

Clustrmaps® <http://clustrmaps.com/counter/maps.php?url=http://www.hennapage.com> (Accessed January 28, 2012)

¹⁸⁷ Clustrmaps®. 2012. Visitors to www.hennapage.com/henna/ppd/index.html (dates and country totals below)”

Clustrmaps®

<http://www3.clustrmaps.com/counter/maps.php?url=http://www.hennapage.com/henna/ppd/index.html> (Accessed January 28, 2012)

¹⁸⁸ Pitts, V. 2003. *In the Flesh. The Cultural Politics of Body Modification*. Palgrave Macmillan.

¹⁸⁹ Brill, D. 2008. *Goth Culture. Gender, Sexuality and Style*. Berg.

¹⁹⁰ Black, A., Black, C., Hall, S. and Hughes, W., 1854. *General Atlas Of The World. World Physical Features. Ocean Currents. Ethnographic Chart of the World*. Adam and Charles Black, Edinburgh.

¹⁹¹ Narvaez, R., 2006. “Embodiment, “Collective Memory and Time.” *Body & Society* Vol. 12(3): 51–73 p.62

¹⁹² Paulicelli, Eugenia. 2008. "Mapping the world: The political geography of dress in Cesare Vecellio's costume books." *Italianist* 28, no. 1: 24-53. *Academic Search Complete*, EBSCOhost (accessed February 3, 2012).

¹⁹³ Crawley, Sara L. 2008. "The Clothes Make the Trans: Region and Geography in Experiences of the Body." *Journal Of Lesbian Studies* 12, no. 4: 365-379. *Academic Search Complete*, EBSCOhost (accessed December 8, 2012).

¹⁹⁴ Siraj, A. "Meanings of modesty and the hijab amongst Muslim women in Glasgow, Scotland." *Gender, Place & Culture: A Journal Of Feminist Geography* 18, no. 6: 716-731. *Academic Search Complete*, EBSCOhost (accessed February 3, 2012).

¹⁹⁵ SANTOS, XUAN. 2009. "The Chicana Canvas: Doing Class, Gender, Race, and Sexuality through Tattooing in East Los Angeles." *NWSA Journal* 21, no. 3: 91-120. *Academic Search Complete*, EBSCOhost (accessed December 8, 2012).

¹⁹⁶ Black, A., Black, C., Hall, S. and Hughes, W., 1854. *General Atlas Of The World. World Physical Features. Ocean Currents. Ethnographic Chart of the World*. Adam and Charles Black, Edinburgh.

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- ¹⁹⁷ Foucault, M. 1988. "Technologies of the Self," in L. Martin, H. Gutman, and P. Hutton (eds.) *Technologies of the Self: A Seminar with Michel Foucault*. Amherst: University of Massachusetts Press.
- ¹⁹⁸ Paterson, M., and Dodge, M. eds. 2012. *Touching Space, Placing Touch*. Ashgate Pub Co. Farnham, Surrey, England.
- ¹⁹⁹ Brown, Gavin. 2008. "Ceramics, clothing and other bodies: affective geographies of homoerotic cruising encounters." *Social & Cultural Geography* 9, no. 8: 915-932. *Academic Search Complete*, EBSCOhost (accessed December 8, 2012).
- ²⁰⁰ Valdivia, Gabriela. 2009. "Indigenous bodies, indigenous minds? Towards an understanding of indigeneity in the Ecuadorian Amazon." *Gender, Place & Culture: A Journal Of Feminist Geography* 16, no. 5: 535-551. *Academic Search Complete*, EBSCOhost (accessed December 8, 2012).
- ²⁰¹ Foucault, M. reprint edition 1982. *The Archaeology of Knowledge & The Discourse on Language* Vintage.
- ²⁰² Butler, J. 2006. *Gender Trouble: Feminism and the Subversion of Identity*. Routledge Classics
- ²⁰³ Soja, E. W., 1996. *Thirdspace: Journeys to Los Angeles and Other Real-and-imagined Places*. Cambridge, Mass.: Wiley-Blackwell,
- ²⁰⁴ Gökariksel, Banu. 2012. "The intimate politics of secularism and the headscarf: the mall, the neighborhood, and the public square in Istanbul." *Gender, Place & Culture: A Journal Of Feminist Geography* 19, no. 1: 1-20. *Academic Search Complete*, EBSCOhost (accessed February 3, 2012).
- ²⁰⁵ Crawley, Sara L. 2008. "The Clothes Make the Trans: Region and Geography in Experiences of the Body." *Journal Of Lesbian Studies* 12, no. 4: 365-379. *Academic Search Complete*, EBSCOhost (accessed February 3, 2012).
- ²⁰⁶ Beazley, H. 2003. "Voices from the Margins: Street Children's Subcultures in Indonesia." *Children's Geographies* 1, no. 2: 181. *Academic Search Complete*, EBSCOhost (accessed February 5, 2012).
- ²⁰⁷ Sui, Daniel Z. 2008. "The wikification of GIS and its consequences: Or Angelina Jolie's new tattoo and the future of GIS." *Computers, Environment & Urban Systems*, January. 1-5. *Academic Search Complete*, EBSCOhost (accessed February 5, 2012).
- ²⁰⁸ Johnson, Frankie J. 2007. "Tattooing: Mind, Body, and Spirit. The Inner Essence of the Art." *Sociological Viewpoints* 23, 45-61. *Academic Search Complete*, EBSCOhost (accessed February 5, 2012).

²⁰⁹ Martí, Josep. 2010. "Tattoo, Cultural Heritage and Globalization." *Scientific Journal Of Humanistic Studies* 2, no. 3: 1-9. *Academic Search Complete*, EBSCOhost (accessed February 5, 2012).

²¹⁰ Rozycki Lozano, A. T., Morgan, R.D., Murray, D. and Varghese, F. 2011. "Prison Tattoos as a Reflection of the Criminal Lifestyle." *International Journal Of Offender Therapy & Comparative Criminology* 55, no. 4: 509-529. *Academic Search Complete*, EBSCOhost (accessed February 5, 2012).

²¹¹ Siorat, Cyril. 2006. "The Art of Pain." *Fashion Theory: The Journal Of Dress, Body & Culture* 10, no. 3: 367-380. *Academic Search Complete*, EBSCOhost (accessed December 8, 2012). pp 368-9

“Beyond the social stigma associated with tattoos, due to their long-term use as symbolic markers amongst criminal communities, lies a stigma rooted in the humanist ideals of the philosophers of the Enlightenment period and from the French and American Revolutions: a form of humanism that became the dogma of the secular and reformed Western world. These ideologies have strong links to the colonization drive as one of their ideals was to help humanity towards a higher, and therefore desirable, state of civilization, and away from their primitive customs, beliefs, and superstitions. The underlying idea was to alleviate cruelty and suffering. Traditional rituals such as tattooing in Eastern Polynesia, and hook swinging performed during Hindu rituals, were, if not outlawed, actively discouraged by the colonial administrations. As Asad has argued. Western humanism seems to have a problem with a willing and positive engagement with pain and suffering.”

²¹² Pew Research Center for the People & the Press. January 9, 2007. “A Portrait of "Generation Next" How Young People View Their Lives, Futures and Politics” *Pew Research Center Publications*.

<http://pewresearch.org/databank/dailynumber/?NumberID=237> (accessed February 5, 2012)

²¹³ McCarron, Kevin. 2008. "Skin and Self-Indictment: Prison Tattoos, Race, and Heroin Addiction.” *English Studies In Canada* 34, no. 1: 85-102. *Academic Search Complete*, EBSCOhost (accessed December 8, 2012).

²¹⁴ Adam, N. January 27, 2011. (uploaded to flickr January 27, 2011) Morgan Street and 33rd. *Nick Adam's photostream*. <http://www.flickr.com/photos/allday/5393031778/> (accessed February 6, 2012)

²¹⁵ Pitts, V. 2003. *In The Flesh: the Cultural Politics of Body Modification*. Palgrave MacMillan, NYC

²¹⁶ Cloke, P., Philo, C., Sadler, D. 1991. *Approaching Human Geography, and Introduction to Contemporary Theoretical Debates*. The Guilford Press, NY. NY. p. 55

²¹⁷ Soja, E. W. 1996. *Thirdspace: Journeys to Los Angeles and Other Real-and-imagined Places* Cambridge, Mass.: Wiley-Blackwell,

²¹⁸ Dawkins, R. 1976. *The Selfish Gene*. Oxford: Oxford University Press. Oxford UK.

²¹⁹ Grant, Glenn. 1990. “What if ideas were viruses?” A Memetic Lexicon Version 3.2 Montreal. <http://deoxy.org/memelex.htm> retrieved September 23, 2012

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- ²²⁰ Michele Coscia, 2013, *Competition and Success in the Meme Pool: a Case Study on Quickmeme.com*. International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.
- ²²¹ Hofstadter, R. 1985. *Metamagical Themas: Questing For The Essence Of Mind And Pattern*. Basic Books, pp.49-65
- ²²² Lynch, A., 1996. *Thought Contagion, how beliefs spreads through society*. Basic Books
- ²²³ Lynch, A., 1998. "Units, Events and Dynamics in Memetic Evolution." *Journal of Memetics - Evolutionary Models of Information Transmission*, 2. http://cfpm.org/jom-emit/1998/vol2/lynch_a.html (accessed September 23, 2012)
- ²²⁴ Dennett, D. 1992. *Consciousness Explained*. Back Bay Books
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- ²²⁶ Lynch, A., 1998. *Thought Contagion : How Belief Spreads through Society*. Basic Books
- ²²⁷ Brodie, R. 1996. *Virus of the Mind: The New Science of the Meme*. Hay House
- ²²⁸ Auger, R. ed. 2001. *Darwinizing Culture: The Status of Memetics as a Science*. Oxford University Press
- ²²⁹ Blackmore, S. 1999. *The Meme Machine*. Oxford University Press. Oxford UK p.17–18
- ²³⁰ Benitez-Bribiesca, Luis. 2001 "[Memetics: A dangerous idea.](#)" *Interciencia* 26: 29–31, p. 29.
- ²³¹ Saniotis, Arthur. 2009. "Technologies of the Mind Neuroanthropology and Memetics." *Neuroquantology* 7, no. 2: 318-324. *Academic Search Complete*, EBSCOhost (accessed September 27, 2012).
- ²³² Baker, Myron C., and Gammon, David E. 2008. "Vocal memes in natural populations of chickadees: why do some memes persist and others go extinct?" *Animal Behaviour* 75, no. 1: 279-289. *Academic Search Complete*, EBSCOhost (accessed September 28, 2012).
- ²³³ Zipes, Jack. 2008. "What Makes a Repulsive Frog So Appealing: Memetics and Fairy Tales." *Journal Of Folklore Research* 45, no. 2: 109-143. *Academic Search Complete*, EBSCOhost (accessed September 27, 2012).
- ²³⁴ Eades, Gwilym Lucas. 2012. "Determining environmental determinism." *Progress In Human Geography* 36, no. 3: 423-427. *Academic Search Complete*, EBSCOhost (accessed September 27, 2012).
- ²³⁵ Blackmore, S. 2010. "Memetics does provide a useful way of understanding cultural evolution." In Ayala, F. and Arp R (eds) *Contemporary Debates in Philosophy of Biology*. Oxford: Blackwell, 255–272.

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- ²⁴⁰ Shifman, Limor. 2012. "An anatomy of a YouTube meme." *New Media & Society* 14, no. 2: 187-203. *Academic Search Complete*, EBSCOhost (accessed September 27, 2012).
- ²⁴¹ Taylor, S., Zook, M., and Graham. M. 2012. "The Technology of Religion: Mapping Religious Cyberscapes." *Professional Geographer* 64, no. 4: 602-617. *Academic Search Complete*, EBSCO host (accessed November 13, 2012).
- ²⁴² Blackmore, S. 1999. *The Meme Machine*. Oxford University Press. Oxford UK. p.43
- ²⁴³ Blackmore, S. 2008. "Susan Blackmore: Memes and 'temes'" Filmed Feb 2008 • Posted Jun 2008 to TED http://www.ted.com/talks/susan_blackmore_on_memes_and_temes.html (accessed January 4, 2013)
- ²⁴⁴ Stamen Design. 2012. "LogMeIn." Stamen.com. 2012. <http://stamen.com/clients/logmein> (accessed October 15, 2012)
- ²⁴⁵ Seward, Z. "Eye of the Storm: Four ways of seeing Sandy without actually seeing it." Quartz.com 2012 <http://qz.com/21538/four-ways-of-seeing-sandy-without-actually-seeing-the-storm/> (accessed October 30, 2012)
- "What are all those Americans doing on the internet now? Well, Netflix reported a 20% increase in usage today over a normal Monday, but mostly, people are talking about the storm. That's clear in this view from Trendsmap, which plots trending Twitter topics by location. San Francisco is still celebrating its World Series while New York City frets about major flooding."
- ²⁴⁶ Stamen Design. "Mapping how viral photos spread on Facebook." Stamen.com. 2012. <https://www.facebookstories.com/stories/2200/> (accessed October 14, 2012)
- "This is a series of videos that visualizes a single piece of content being shared between hundreds of thousands of individuals on Facebook. We've tried to capture the frenetic energy surrounding three of the most shared images, all of which were photos published on George Takei's Page.
- "Each visualization is made up of a series of branches starting from a single person. As the branch grows, re-shares split off on their own arcs, sometimes spawning a new generation of re-shares, sometimes

exploding in a short-lived burst of activity. The two different colors show gender, and each successive generation becomes more and more white as time goes by.”

Here are the three images from George Takei featured in the videos:

Marvin the Martian

Ab Fab London

Famous Failures

The data used for these visualizations spans a three-month period from July to September and is composed of shares originating from news feed.”

²⁴⁷ Stamen Design. New Hurricane Tracker for the Weather Channel. Stamen.com. 2012.

http://content.stamen.com/new_hurricane_tracker_for_the_weather_channel (accessed October 14, 2012)

²⁴⁸ Stamen Design. “Visualizing a day of financial transactions on NASDAQ.” Stamen.com. 2012.

http://content.stamen.com/visualizing_a_day_of_financial_transactions_on_nasdaq (accessed October 14, 2012)

“Earlier this year Zach Watson and I spent some time visualizing financial data. It's time to make that work public. The following images represent visualization of buy/sell data during a single day of NASDAQ trades.

We mapped a small subset of the variables for each transaction:

time of the transaction, to the second

whether it was buy or sell

price of the transaction

number of shares traded

“Each of these variables is represented in the diagrams below. Each image represents a minute of time, and shows every trade that happens in that minute. Each trade is shown as a circle:

“Every vertical row is a second in time. So the left hand side of the screen is the beginning of the minute, the middle of the screen is 15 seconds in, and the right hand side of the screen is the end of the minute, with 60 seconds in between.

Blue dots are buys, yellow dots are sells

The vertical axis is the price of the transaction; the top of the screen is cheaper stocks and the bottom is more expensive stocks.

The size of the dot is the number of shares traded; small dots are for a few shares and larger dots are for a larger number of shares.”

²⁴⁹ Stamen Design. 2012. Crimespotting. Crimespotting is an interactive map of crimes in San Francisco and

Oakland, and a tool for understanding crime in cities. Stamen.com. 2012. <http://stamen.com/projects/crimespotting>

(accessed October 14, 2012)

²⁵⁰ CAIDA: The Cooperative Association for Internet Data Analysis. 2004. Cuttlefish Example: Witty Worm

Infected Hosts. <http://www.caida.org/tools/visualization/cuttlefish/witty-hosts.xml> (accessed October 14, 2012)

“On Friday March 19, 2004 at approximately 8:45pm PST, the Witty Internet Worm began to spread, targeting a buffer overflow vulnerability in several Internet Security Systems (ISS) products. To create this animation with Cuttlefish, we used Digital Envoy's NetAcuity server for world wide mapping of IPv4 addresses to geographic locations of data collected with the UCSD Network telescope.

“This animated example displays the number of infected hosts and their geographic location on the world map with a sweeping terminator to highlight the border between night and day. The animation shows the incredible rate at which the Witty Internet Worm infected hosts, reaching its peak after only 45 minutes. The animation also shows the effects of Witty’s destructive payload, in combination with efforts to filter Witty traffic and patch infected machines, leading to the rapid drop in the number of infected hosts over the five day period of data. 12 hours after the worm began to spread, half of the Witty hosts were rendered inactive. The histogram in the upper right corner displays the total number of infected hosts over the five day period of collection. Note that the difference between UTC and PST time is -8 hours. The legend directly below the histogram displays the color coding of the data points. The colored data points represent the number of hosts throughout the world infected by the Witty Worm.”

²⁵¹ Jaewon Yang; Leskovec, J., "Modeling Information Diffusion in Implicit Networks," *Data Mining (ICDM)*, 2010 *IEEE 10th International Conference on* , vol., no., pp.599,608, 13-17 Dec. 2010Pages 599-608. IEEE Computer Society Washington, DC, USA ©2010

²⁵² Indiana University Center for complex Networks and Systems Research. “Information Diffusion in Online Social Networks.” Indiana.edu. <http://cnets.indiana.edu/groups/nan/truthy> (accessed September 30, 2013)

²⁵³ Guille, A., Hacid, H., Favre, C., Zighed, D. 2013. “Information Diffusion in Online Social Networks: A Survey.” *SIGMOD Record*, Vol. 42, No.2

²⁵⁴ Dunlap, R., McCright, A., 2011. Organized Climate Change Denial. *Oxford Handbook of Climate Change and Society*. Ed. Dryzek, J., Norgaard, R., and Schlosberg, D. eds. Chapter 10.

²⁵⁵ *Ibid*, page 147.

²⁵⁶ Zuckerman, E. 2006. “One Internet, Indivisible” *Inc.Magazine*, May. P. 29. Gruner and Jahr Publishing USA

²⁵⁷ Zuckerman, E. 2008. “Serendipity, Echo Chambers, and the Front Page.” *Nieman Reports*. Winter p. 16-17.

²⁵⁸ Zuckerman, E. 2006. “Gathering Voices to Share With a Worldwide Online Audience.” *Nieman Reports*. Winter, pp. 45 - 47

²⁵⁹ Floatingsheep.org. 2012. (accessed November 13, 2012)

“FAQ

”There is an increasing amount of data on the Internet that is geo-coded to a particular spot on the earth. This has huge implications for how we interact with our surroundings and each other.

“This site is dedicated to mapping and analyzing user generated geocoded data. The results provide one glimpse of what internet users (in the aggregate) think about particular places. Where are people posting placemarks about swine flu? Which places are considered to be "fun" by the collective intelligence of the Internet users?

“We view this new cloud of user generated data as cyberscape which provides an additional layer for human interaction. In addition to our five senses we can now access cyberscapes of information (see our visualization below) as a digital sixth sense. We can look around a physical corner and see what online information has been tied to that location. Since a large amount of this information is created by users we

are no longer limited to the stale monotony (or security) of business directories or phonebooks. People can document their memories, feelings, biases and reactions to places and share them with the world.”

“Dr. Matthew Zook (in the foreground)
Department of Geography
University of Kentucky, USA

“Dr. Mark Graham
Oxford Internet Institute
University of Oxford, U.K.
Taylor Shelton
Graduate School of Geography
Clark University, USA
Twitter: @kyjts

“Dr. Monica Stephens
Department of Geography
Humboldt State University, USA
Twitter: @geographiliac

“Ate Poorthuis
Department of Geography
University of Kentucky, USA

²⁶⁰ Taylor, S., Zook, M., and Graham, M. 2012. "The Technology of Religion: Mapping Religious Cyberscapes." *Professional Geographer* 64, no. 4: 602-617. *Academic Search Complete*, EBSCOhost (accessed November 13, 2012).

²⁶¹ Graham, M., and Zook, M. 2011 "Visualizing Global Cyberscapes: Mapping User-Generated Placemarks." *Journal Of Urban Technology* 18, no. 1 (January 2011): 115-132. *Academic Search Complete*, EBSCOhost (accessed November 13, 2012).

²⁶² Oxford Internet Institute, Oxford University. "New Positions. Researcher." Oii.ox.ac.uk.
<http://www.oii.ox.ac.uk/people/newpositions/#p25> (accessed December 16, 2012)

Grade 7: Salary £29,249 - £35,938 p.a. (pro rata)

“We are a leading international research and policy Institute looking for a full-time Researcher to work with Dr Mark Graham on a five month project to study the geographies of user-generated content and participation on Wikipedia. We specifically seek to employ a researcher with experience in quantitative geography or quantitative sociology in order to statistically explain national and sub-national patterns and geographies of Wikipedia articles and editing behaviour.

“Across the globe, daily economic, social and political activities increasingly revolve around the use of social content on the Internet. This user-generated content influences our understandings of, and interactions with, our social environment. Despite rapid increase in Internet access, there are indications that many people remain largely absent from websites and services, and many voices are absent from important platforms of information.

“We explore this phenomenon through one of the world's most visible and most accessed source of content: Wikipedia. This project will employ a range of (primarily quantitative) methods to assess, explain, and model the variable levels of access, participation and representation on Wikipedia.

“Candidates should have a keen interest in platforms of peer-production and the geographies of online participation. We welcome applications from candidates with a background in statistical methods, a strong record of scholarly research, and a desire to co-author academic publications.”

²⁶³ Blute, Marion. 2005. "Memetics and evolutionary social science." *Journal Of Memetics - Evolutionary Models Of Information Transmission* 9, no. 1: 1-5. Academic Search Complete, EBSCOhost (accessed September 30, 2012).

²⁶⁴ Misturelli, F., and Heffernan, C.. 2009. "Never the Twain Shall Meet: A Memetic Analysis of Poverty Perceptions." *Development Policy Review* 27, no. 2: 167-183. Academic Search Complete, EBSCOhost (accessed September 30, 2012).

²⁶⁵ Lynch, A. (2002) “Thought contagion in the dynamics of mass conflict.” *Swedish Defence Research Agency base data report* FOI-R—0745—SE. Edited by Dahlberg M.

²⁶⁶ Michele Coscia, 2013, *Competition and Success in the Meme Pool: a Case Study on Quickmeme.com*. International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

²⁶⁷ Shifman, Limor. 2012. "An anatomy of a YouTube meme." *New Media & Society* 14, no. 2: 187-203. Academic Search Complete, EBSCOhost (accessed September 27, 2012).

²⁶⁸ Shifman, L.; Thelwall, M. 2009. Assessing Global Diffusion with Web Memetics: The Spread and Evolution of a Popular Joke. *Journal of the American Society for Information Science and Technology*, 60, 12: 2567 – 2576

²⁶⁹ Paull, J. 2009. Meme Maps: A Tool for Configuring Memes in Time and Space. *European Journal of Scientific Research* 31, 1:11-18.

²⁷⁰ Gatherer, D. (2002b) “Identifying cases of social contagion using memetic isolation: comparison of the dynamics of a multisociety simulation with an ethnographic data set.” *Journal of Artificial Societies and Social Simulation* 5, no. 4 <http://jasss.soc.surrey.ac.uk/5/4/5.html>

²⁷¹ Kellerman, A. 2002. *The Internet on Earth: A Geography of Information*. Chichester, England: John Wiley & sons Ltd. pp 3 - 5

²⁷² Hebblethwaite, C. “Who, What, Why: In which countries is Coca-Cola not sold?” *BBC News Magazine*. September 11, 2012. <http://www.bbc.co.uk/news/magazine-19550067> (accessed September 27, 2012)

²⁷³ Auger, Robert. 2002. "Exposure versus Susceptibility in the Epidemiology of "Everyday" Beliefs." *Journal Of Cognition & Culture* 2, no. 2: 113-157. *Academic Search Complete*, EBSCOhost (accessed October 1, 2012).

²⁷⁴ Lynch, A. 1996. *Thought Contagion; how belief spreads through society*. Basic Books. NY NY p. 37

²⁷⁵ Vale, V. and Juno, A, eds. 1989. *Modern Primitives: an Investigation of Contemporary Adornment & Ritual* Re/search San Francisco, CA.

²⁷⁶ Lodder, M. 2011. "The myths of modern primitivism." *European Journal Of American Culture* 30, no. 2: 99-111. *Academic Search Complete*, EBSCOhost (accessed October 30, 2012).

“Modern Primitives is undoubtedly the most widely influential work on body modification practices in the West yet written – it cannot unreasonably be said to have been the impetus for the first wave of a nascent body piercing industry, which rippled across North America and Europe in the early 1990s, bringing exotic body modifications to the attention of countless people, many of whom were inspired to copy them.”

²⁷⁷ Hendrikus Johannes Everhardus "Henk" Schiffmacher . http://en.wikipedia.org/wiki/Henk_Schiffmacher (accessed October 30, 2012)

²⁷⁸ Leo Zulueta. http://en.wikipedia.org/wiki/Leo_Zulueta (accessed October 28, 2012)

²⁷⁹ Hardy, D. E. (1988), *TattooTime: New Tribalism*, Honolulu, HI: Hardy Marks.

²⁸⁰ Ranier, C. 2006. *Ancient Marks: The Sacred Origins of Tattoos and Body Marking* Earth Aware Editions

²⁸¹ Horne, Jenn, David Knox, Jane Zusman, and Marty E. Zusman. 2007. "Tattoos and Piercings: Attitudes, Behaviors, and Interpretations of College Students." *College Student Journal* 41, no. 4: 1011-1020. *Academic Search Complete*, EBSCOhost (accessed October 29, 2012).

“Men, compared to women, were more likely to agree that, "tattoos are symbols of resistance to our culture.”

²⁸² BME Encyclopedia. USENET newsgroup dedicated to bodyart discussion. <http://wiki.bme.com/> (accessed October 30, 2012)

“rec.arts.bodyart is a USENET newsgroup which may be accessed through either dedicated newsreaders or through most browsers. Its primary content is discussion of tattoos and piercings, but discussion of all permanent body modifications are welcome there.”

²⁸³ *Info & news on Red Hot Chili Peppers' vocalist: Tattoos*. Anthonykiedis.net <http://anthonykiedis.net/about-the-man/tattoos/> (accessed October 28, 2012)

²⁸⁴ Bold, K. “Mehndi: Body Art That's Not Forever.” *Los Angeles Times*. April 23, 1998. April 23, 1998

"Melany Balmforth has come to the Fandangle boutique in Orange on a recent Saturday morning to have an artist adorn her hand with a silver-dollar-sized tattoo.

"Cool, cool, cool," the 13-year-old Fullerton resident says, surveying the newly minted medallion on her epidermis. Yet Melany's mother Jacquie Balmforth looks uneasy: "Why does a mother let her kid do this?" she says. "My husband's going to be so mad."

"What will literally save Melany's skin is the fact that her tattoo is only temporary. Instead of being injected into the skin with permanent ink, the medallion has been painted on with henna and has a life of only two to three weeks.

"My band teacher won't like it," predicts Melany, surveying the tattoo with satisfaction. "But I always draw on my hands with markers anyway."

"Kids, and plenty of adults, have discovered the ancient practice of henna body art--or Mehndi--as the latest way to tinker with Mother Nature in the spirit of self-expression. Teens, in particular, are challenging ideas of acceptable attire, just as they've always done.

"Mehndi rapidly is going mainstream, thanks to style setters such as Gwen Stefani of the Anaheim band No Doubt, actresses Sharon Stone and Demi Moore, and Madonna, whose henna-covered hands look as if they're covered in lacy gloves in her recent video.

"Yet like body piercing and purple hair, temporary tattoos have been met with mixed reactions. Already they're banned on some Orange County campuses and tolerated on others; reaction from parents ranges from enthusiastic endorsement to shock.

"In the eyes of administrators at the Huntington Beach Union High School district, a tattoo is a tattoo and must be concealed from view--temporary or not.

"We take a pretty strong stand," says John Myers, assistant superintendent of educational services for the district, who didn't object when his wife got a henna tattoo. "What schools are so paranoid about is . . . that they can't scrutinize every tattoo to see if it's offensive."

"Tattoos can be subtle advertisements for gangs or carry foul language or symbolism, but not all schools ban them. At Corona del Mar High School, several students have sported henna body art without repercussions.

"There's no rule at the high school or district that would prohibit it. The only tattoo that would cause me concern is one that had offensive language or was inappropriate for school," says Robert Cunard, assistant principal of Corona del Mar High."

²⁸⁵ Distin, K. 2005. *The Selfish Meme: a critical reassessment*. Cambridge University Press. p.19

²⁸⁶ "Black henna tattoo charges go up as high as QR3,200." The Peninsula. June 4, 2012.

<http://www.thepeninsulaqatar.com/qatar/196447-black-henna-tattoo-charges-go-up-as-high-as-qr3200.html>

(accessed October 24, 2012)

"DOHA: Some beauty salons here are offering black henna tattoo at charges as high as QR3,200, while the authorities are trying to impose strict regulations on the use of this dangerous substance, a seminar at Daain was told.

"The seminar organised by the Daain Municipality warned against the application of black henna on the skin, eye lashes and eye lids.

“Black henna contains more than six per cent of Paraphenylenediamine (PPD) a major component of hair dyes that cause serious health hazards.

“Black henna is not intended for use as tattoo dye. Actually, it’s hair dye. It’s not meant to come in contact with skin for long periods of time and even the hair dye can be dangerous to those with an allergy to PPD.

“The problem is that most people don’t know if they’re allergic to it until they have already received lasting damage from a reaction.”

²⁸⁷ Nana Hennadesign posted to Golecha Mehndi. November 3, 2012.

<https://www.facebook.com/golecha.mehndi.1?fref=ts> (accessed November 13, 2012)

Fatima Henna

“je le sais bien je ne suis pas une fan de henné noir. sur moi je n'utilise que du henné indien naturel , les mariées pareille mais les noirs c pas possible elles ne veulent que du noir et moi ce que j'utilise est beaucoup moins nocif que le biggen ou le harkouss.le jagua sort bleu et non noir de sur les africaine du sud on ne verra rien . Comme j'ai essayé de l'expliquer quand il sagit de henné noir je fait signer des décharges expliquants (discuss things, have it out) les effets nocifs du henné pour qu'elles comprennent les risques

Translation:

“I know well I am not a fan of black henna. For me, I only use natural Indian henna, the brides like (want?) black, but they do not want that black and what I use is a lot more harmful than biggen? or Harkous. Jagua (Genipa americana, also known as Jagua) becomes blue not black and on South African you see nothing. Like I have tried to explain when it is black henna I have (them?) sign (perhaps a document) discussion of the noxious effects of the henna for them to understand the risks.”

²⁸⁸ Tali Sharot, T., Korn, C., Dolan, R. 2011. “How unrealistic optimism is maintained in the face of reality.”

Nature Neuroscience . 14, 1475–1479

<http://www.nature.com/neuro/journal/v14/n11/full/nn.2949.html> (accessed October 15, 2012)

²⁸⁹ Gallagher, J. “Brain 'rejects negative thoughts’” *BBC News*. October 9, 2011 <http://www.bbc.co.uk/news/health-15214080>. (accessed October 14, 2012)

²⁹⁰ Tarawa. “THE TARAWA PROFESSIONAL BLACK POWDER KIT. FOR BEGINNING YOUR OWN BUSINESS YOU NEED 1 HOURS TIMES !” Tarawa.com, 1998.

<http://web.archive.org/web/19990224202119/http://www.tarawa.com/anglaiprokit.htm> accessed June 14, 2012.

YOU SAW THEM ON BEACH IN BALI, IN EGYPT, SECHELLES, AUSTRALIA, ECT...
TARAWA OFFERS to YOU the SAME PRODUCT OF BLACK TEMPORARY TATTOOING WITHOUT ANY HARMFUL PRODUCT FOR the SKIN .
TARAWA WAS DEVELOPED A NEW PRODUCT REVOLUTIONNAIRE AS REGARDS BLACK TEMPORARY TATTOOING. THIS PRODUCT PRESENT IN THE FORM OF POWDER AND YOU MIXT SIMPLY WITH WATER MINERALE. ONCE TATTOOING DONE, THE CUSTOMER SHOULD NOT TOUCH THERE DURING 60 A 90 MINUTES.

After The 90 Minutes rinse WITH WATER.Le Black Tattooing Will hold On The Skin Of 7 DAYS(garanti) A 15 Days Following The Types Of Skin.THIS PRODUCED DOES NOT CONTAIN ANY HARMFUL PRODUCT FOR THE SKIN.

²⁹¹ Nana Hennadesign posted to Golecha Mehndi. November 3, 2012.

<https://www.facebook.com/golecha.mehndi.1?fref=ts> (accessed November 13, 2012)

Fatima Henna: "it's not natural but I work with black henna and Today no one have benne an allergic. But I'm agree with you in Morocco they use "diluant" wich brun the skin. (I don't speak very very well english excuse me if I do error) :)"

November 4 at 12:31pm · Cierra M Hall "No, black henna is always toxic and sometimes the worse damage is on the inside, in your organs!"

November 4 at 12:40pm "Fatima Henna yes the plomb"

November 4 at 12:41pm Fatima Henna "but when someone ask me black henna if she is black women she want it absolutly I tell her the risk . she is the only responsible."

November 4 at 12:43pm · Cierra M Hall "No, its like I'm going to set you on fire but its your fault if you burn!. Don't do it, ever!"

November 4 at 12:45pm · Fatima Henna "Yes it can do allergi , it can burn . I'm agree with you but in france everybody want black henna . They know the risks... its their problem. I have a contrat with them where everything is explicated."

²⁹² "Boy, 3, may face lifelong Simpson tattoo." *Mother and Baby. Ninemsn.* July 21, 2009.

<http://motherandbaby.ninemsn.com.au/entertainment/coffeebreak/1070263/boy-3-may-face-lifelong-simpson-tattoo>

(accessed November 13, 2012)

"Henna dye is supposed to be temporary but a three-year-old boy may have a lifelong souvenir of a holiday after his Bart Simpson tattoo went horribly wrong.

"Vinnie England, from Bristol in the UK, was on a family holiday when he got a 7cm henna tattoo sketched on his forearm at a street stall in Benidom, Spain.

"His mum, Hayley, was assured it was safe, but a few days later Vinnie's arm started to redden and blister around the edges of the tattoo."

²⁹³ Hall, M. October 10, 2010. Holiday boy's skin blistered after 'black henna' tattoo. *Get Surry.*

http://www.getsurrey.co.uk/news/s/2079697_holiday_boys_skin_blistered_after_black_henna_tattoo (accessed

October 30, 2012)

²⁹⁴ The Cantaloupetales. "Goodbye Henna" posted to *thecantaloupetales; Morocco, art, & the open road.* May 16,

2012 <http://thecantaloupetales.wordpress.com/tag/black-henna/> (accessed October 24, 2012).

"Yesterday, to celebrate our last days in Morocco, we gathered at Madiha's for tea, henna, some last bites of millwi, and some tearful goodbyes. To avoid getting all sentimental, I'm going to show you what traditional Moroccan henna designs look like!The henna you are looking at is black henna, which is not as scary as google makes it sound. This is natural henna with a dye mixed in it that makes it black, and it's awesome. It stays on longer, which is SWEET."

²⁹⁵ Hall, M. 2010. Holiday boy's skin blistered after 'black henna' tattoo. *Get Surrey*.

http://www.getsurrey.co.uk/news/s/2079697_holiday_boys_skin_blistered_after_black_henna_tattoo (accessed November 13, 2012)

“A THREE-YEAR-OLD boy from Guildford suffered weeping blisters and lifelong damage to his skin after being given an illegal ‘black henna’ tattoo on holiday.

“Byron Lapworth had a severe allergic reaction after having a dragon design drawn on his arm in Egypt.

“Together with his mother Lisa and seven-year-old sister Bethany, the family from Burpham had the tattoos done around the poolside at their resort, without realising that so-called black henna is illegal because of an added ingredient which can be dangerous when used on skin.

“Although mother and daughter did not suffer any reaction to the tattoos, Byron’s arm bubbled up into red blisters a few days later once they were back in the UK, with the skin continuing to crack and weep even after cream was applied.

²⁹⁶ Lynch, A. 1996. *Thought Contagion; how belief spreads through society*. Basic Books. NY NY pp.144-5

²⁹⁷ Distin, K. 2005. *The Selfish Meme: a critical reassessment*. Cambridge University Press. p.39

²⁹⁸ Russell, J. “Black henna tattoos make painful souvenirs for Florence girls” South Carolina Now September 5, 2010. <http://www2.scnw.com/news/2010/sep/05/black-henna-tattoos-make-painful-souvenirs-florenc-ar-787056/> (Accessed December 26, 2011)

FLORENCE --

‘Getting a souvenir from a vacation is something many people like to do.

‘Most of the time, the souvenir is a T-shirt, a hermit crab or maybe a beach towel, but some choose to get body art.

‘If you’re old enough, you might decide to get a piercing, tattoo or maybe a temporary tattoo.

‘There are stands all over the Grand Strand that advertise black henna temporary tattoos. Many say the temporary tattoos will last 60 days or more after being applied. Usually, the temporary tattoos start about \$7 and go up in price depending on how large they are.

‘Two girls in Florence got more than they bargained for when they decided to get a seemingly harmless black henna temporary tattoo while vacationing at the beach.

‘Instead of leaving with fond memories of playing on the beach with their friends, the two left the area seeking medical attention.

‘Taylor Miller, 13, was on vacation with a friend’s family in July and said she couldn’t wait to get a black henna tattoo.

‘Her father, Doug, was a little apprehensive when discussing it with Taylor before she left for her trip.

“I was concerned about cleanliness of the establishments doing them and there are no regulations to speak of like tattooing,” he said.

‘Reluctantly, he said, he agreed and Taylor was off for a late summer vacation with her friend’s family for a fun-filled week.

'Taylor said she had heard about black henna tattoos and went to Eagles Beachwear at South Waccamaw Drive and Atlantic Avenue, Murrells Inlet, with three friends to get one.

'She waited in line just as any customer would.

"There was a long line of people waiting to get them so I thought it must be a good place," she said."

²⁹⁹ Hall, M. October 06, 2010. "Holiday boy's skin blistered after 'black henna' tattoo" *Get Surrey*. S&B media.

http://www.getsurrey.co.uk/news/s/2079697_holiday_boys_skin_blistered_after_black_henna_tattoo accessed

October 28, 2012

³⁰⁰ Jurgenson, M. October 24, 2012. What makes a meme? Salon.com

http://www.salon.com/2012/10/28/what_makes_a_meme/ (accessed October 28, 2012)

³⁰¹ Pena, C. 2012. The Art of Henna. *The Stony Brook Press*. <http://sbpress.com/2012/11/the-art-of-henna/> (accessed

November 20, 2012)

"When Khalid was 10 years old, her older sister would tattoo for brides and other women during parties and special occasions, and she "wanted to do it too."

Since she was just a child, she couldn't tattoo on brides. Henna tattoos on brides were too intricate and complex for a 10- year old to create. So she practiced. She practiced on the younger children during festivals and parties. She practiced on herself."

³⁰² Luhar, N. Posted to "Directory, Get Local in Sacramento," *Downtown Grid.com* 2012, accessed November 24,

2012, <http://sacramento.downtowngrid.com/directory/view/entry/158>

My name is Nafsheen Luhar. I'm east Indian and I was born in Kenya (East Africa). My family and I moved to the US in July of 1998. I have been doing henna tattoos for the past six years . Henna is a very significant part of our culture and a very special highlight of all our events, especially weddings and eid (muslin festival after Ramadan). I learned the art of henna tattoos from my dad and my older sister, who used to do henna tattoos for me during special events. Once we moved to the United States I learned henna tattoo myself and started imitating the designs that my dad had done. As a child I had watched him very attentively and I now carry on his tradition.

³⁰³ Bakkali, A. T., Jaziri, M., Foriers, A., Vander Heyden, Y, Vanhaelen, M., and Homes, J. 1997. Lawsone

accumulation in normal and transformed cultures of henna, *Lawsonia inermis*. *Plant Cell, Tissue and Organ Culture*

51: 83–87, 1997. 83 Kluwer Academic Publishers.

³⁰⁴ Tests done by Alkemists Pharmaceuticals by Mehendi.com from 2008 to 2012 on various lots of henna; Dr.

Sidney Sudberg, Chief Scientific Officer and VP of Quality; Elan Sudberg, B.Sc., Chief Executive Officer and

Expert Microscopy

³⁰⁵ Amro, B. I. H., James, K. C., Turner, T. D. 1993. *Journal of the Society of Cosmetic Chemistry*. 45, 159 – 165,

May-June 1994.

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- ³⁰⁶ Dhimal, N. R., A. V. Todkary, S. Y. Rane, and S. P. Gejji. 2005. "Hydrogen bonding motif in 2-hydroxy-1,4-naphthoquinone." *Theoretical Chemistry Accounts: Theory, Computation, & Modeling* 113, no. 3: 161-166. Academic Search Complete, EBSCOhost (accessed November 18, 2012).
- ³⁰⁷ Kraeling, M. E., 2007. "Absorption of lawsone through human skin." *Cutaneous and Ocular Toxicology*. Vol 26, I pp 45- 56
- ³⁰⁸ Lamoureux, G., Perez, A. L., Araya, M., and Agüero, C. 2008. "Reactivity and structure of derivatives of 2-hydroxy-1,4-naphthoquinone (lawsone)." *Journal Of Physical Organic Chemistry* 21, no. 12: 1022-1028. Academic Search Complete, EBSCOhost (accessed November 17, 2012).
- ³⁰⁹ Salunke-Gawali, Sunita, Kathawate, L., Shinde, Y., Puranik, V. G., and Weyhermüller, T. 2012. "Single crystal X-ray structure of Lawsone anion: Evidence for coordination of alkali metal ions and formation of naphthosemiquinone radical in basic media." *Journal Of Molecular Structure* 1010, 38-45. Academic Search Complete, EBSCOhost (accessed November 17, 2012).
- ³¹⁰ Rachel. June 26, 2011. When I get off that plane, I want to LOOK like I've been living in Africa for the last year! *Casa-blog-a!! A blog about my Peace Corps journey in Morocco* <http://elegantmachine.wordpress.com/2011/06/26/> (accessed December 23, 2012)
- ³¹¹ Elizabeth Prince. Comment posted to PPD Free Henna Artists, November 21, 2012, accessed November 21, 2012, <https://www.facebook.com/groups/236518769710130/> (permission granted to quote from private group))
- “Elizabeth Prince
“Somebody just sent me this email. I have the impression that it's genuine, and possibly related to an Egyptian event I did last night where SOME of the ladies were not at all happy that I was offering natural henna.
- “i will be happy to help u jmAkaMcBam .take 1 cup of henna powder, 2 spoon of lemon juice, half spoon of suger, 3 sponos car gas and water if needed. before u make the design in ur hand wash it very good , after that but a little of olive oil on the skin after that do the desigen on it and leted dry.after u wash it but little of olive oil agine to make the design shinier . i hope that will help u sorry my english its not really perfect
- “did you catch that??
- Linda Bell “Mmmm car gas.... tasty”
- Min White Ah yes – “I had the organiser of our Multi-ethnic festival one year tell me I really should put some petrol in my henna paste.”
- Marie Facepainting Lepage “That's scary”

Spiritwater Henna “yes I had someone from India "with her own parlour" suggest that I use car gas.... the creepy thing is you know they’re out there somewhere.”

Victoria Welch “Gas is a common ingredient in that part of the world. Just keep the burning henna on as long as you can so you get a dark stain. If you can't find gas get some kerosine. I know, uphill battle. There was once a thread in a forum explaining the dangers of using gas, kerosine, turpentine etc as a terp and some yahoo actually posted asking where in the hardware store could she find the turpentine. She wanted dark henna but didnt want to spend money on eo's.”

Bridget Wessell Punsalang “Wtf people really? It's so hard for me to believe people can be so blatantly reckless. But alas, people amaze me almost daily...”

³¹² Hassan, I.B., Islam, S.I., Alizadeh, H., Kristensen, J., Kambal, A., Sondag, S., Bernseen, R.M. 2009. “Acute leukemia among the adult population of United Arab Emirates: an epidemiological study.” *Leukemia and Lymphoma*. 2009 July; 50 (7) :1138-47. doi: 10.1080/10428190902919184.

³¹³ Halim, W. 2012. Henna Stain Progression. *Henna Trendz*. San Diego, Ca.
http://www.hennatrendz.com/hennatrendz/articles/hennatrendz_article_henna_stain_progression.shtml (accessed November 13, 2012)

³¹⁴ As of November 22, 2012, Walmart offers Spring Valley Pharmaceutical Grade Tea Tree Oil essential oil for \$7.96 for 2 oz. On the same day, gasoline at BP in Stow, Ohio, is \$3.55 per gallon (128 oz). If a henna artist uses three tablespoons, or 1.5 oz of non-polar solvent per 100g of henna, the addition of tea tree oil to darken henna paste would cost \$5.97 compared to \$.04 for gasoline.

³¹⁵ Westermarck, E. 1926. *Ritual and Belief in Morocco*, 2 Vol. Macmillan and Co. London.

³¹⁶ Besancenot. 1988. *Costumes of Morocco*. Aix-en-Provence, France: Edisud.

³¹⁷ Field, H. 1958. *Body Marking in Southwestern Asia*. Cambridge, MA: Peabody Museum

³¹⁸ Gaudry, M. 1929. *La Femme Chaouia De L'Aures*. Etude de Sociologie Berbere, Librarie Orientaliste Paul Geuthner, Paris, pp 95-111.

³¹⁹ Messina, Maria. 1988. "Henna party." *Natural History* 97, no. 9: 40. Academic Search Complete, EBSCOhost (accessed November 13, 2012).

³²⁰ Stanfield, J. 1995. “Wedding Henna.” *National Geographic*. May.

Wedding Henna

Photograph by James L. Stanfield

Flush with wealth from its oil fields, the Sultanate of Oman has catapulted from Arabian Peninsula backwater to modern nation—while keeping alive traditions such as lailat al henna, a women-only

celebration to honor a bride on the eve of her wedding. Her hands bear fanciful filigrees executed in henna, which will wear off in several weeks.

—From “Oman,” May 1995, National Geographic magazine

³²¹ Listerine. October, 1930. “Even a Queen Couldn’t Get Away With It.” *Pictorial Review*. New York, New York.

³²² FDA U.S. Food and Drug Administration. “Code of Federal Regulations. Title 21 Food and Drugs. Chapter I.

Food and Drug Administration. Subchapter A – General. Part 73. Listing of Color Additives Exempt from

Certification. Subpart C – Cosmetics. Section 73.2190 – Henna.” FDA U.S. Food and Drug Administration.

Department of Health and Human Services.

<http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=73.2190> (accessed December 10, 2012)

[Code of Federal Regulations]
[Title 21, Volume 1]
[Revised as of April 1, 2012]
[CITE: 21CFR73.2190]

TITLE 21--FOOD AND DRUGS
CHAPTER I--FOOD AND DRUG ADMINISTRATION
DEPARTMENT OF HEALTH AND HUMAN SERVICES
SUBCHAPTER A--GENERAL

PART 73 -- LISTING OF COLOR ADDITIVES EXEMPT FROM CERTIFICATION

Subpart C--Cosmetics
Sec. 73.2190 Henna.

(a) Identity. The color additive henna is the dried leaf and petiole of *Lawsonia alba* Lam. (*Lawsonia inermis* L.). It may be identified by its characteristic odor and by characteristic plant histology.

(b) Specifications. Henna shall conform to the following specifications:

It shall not contain more than 10 percent of plant material from *Lawsonia alba* Lam. (*Lawsonia inermis* L.) other than the leaf and petiole, and shall be free from admixture with material from any other species of plant.

Moisture, not more than 10 percent.

Total ash, not more than 15 percent.

Acid-insoluble ash, not more than 5 percent.

Lead (as Pb), not more than 20 parts per million.

Arsenic (as As), not more than 3 parts per million.

(c) Uses and restrictions. The color additive henna may be safely used for coloring hair only. It may not be used for coloring the eyelashes or eyebrows, or generally in the area of the eye.

(d) Labeling. The label for henna shall bear the information required by 70.25 of this chapter and the following statements or their equivalent:

"Do not use in the area of the eye."

"Do not use on cut or abraded scalp."

(e) Exemption from certification. Certification of this color additive for the prescribed use is not necessary for the protection of the public health and therefore batches thereof are exempt from the certification requirements of section 721(c) of the act.

³²³ Author's collection: henna from early 1900's intended for use as hair dye. B. Paul's Black Henna Compound and Light Brown Henna Compound contained packets of pyrogallol and copper sulfate to create different dye colors.

<http://www.ftc.gov/os/decisions/docs/vol46/vol46pg936-1014.pdf> (accessed December 17, 2012)

936 FEDERAL TRADE COMMISSION DECISIONS

Syllabus 46 F. T. C.

IN THE MATTER of GUSTAVE GOLDSTEIN TRADING AS HUMANIA HAIR GOODS & SPECIALTY CO. COMPLAINT, AND MODIFIED FINDINGS AND ORDER IN REGARD TO THE ALLEGED VIOLATION OF SEC. 5 OF AN ACT OF CONGRESS APPROVED SEPT. 26, 1914

Docket 5249. Complaint, Nov. 21, 19.;4—Dec<isi0n, -Jmte 16, 1950

Where an individual engaged in the interstate sale of certain cosmetic preparations for the skin, hair, and scalp; in advertising in catalogs distributed throughout the United States by the mails and by other means in commerce—

(a) Represented that his "B. Paul's Compound" for coloring the hair was composed of harmless ingredients and could be used without harmful effects; notwithstanding the fact that by virtue of its pyrogallic acid content, a caustic, use thereof would under certain conditions irritate the skin and mucous membranes;

Page 2

HUMANIA HAIR GOODS & SPECIALTY co. 937 936 ' Complaint: after the reopening of the instant proceeding, that it consisted of 98 to 99 percent of henna (varying with the shade), together with small percentages of copper sulphate and pyrogallic acid, and that, when used in accordance with directions, it is unlikely to be seriously injurious to health;

³²⁴ Author's collection:

Contents of Henna Neutral (Colorless):

Lactose, corn starch, hydroxypropyl methyl cellulose, quaternium-5, henna

Contents of Henna:

Henna

Contents of Henna for Black Hair:

Lactose, cornstarch, hydroxypropyl methyl cellulose, quaternium-5, henna, iron oxides.

³²⁵ Rani & Company. "RANI KONE HENNA BODY DECORATION PASTE." 2012.

<http://www.ranikonehenna.com/web/> (accessed November 13, 2012)

"We are the leading manufacturer of the finest quality and the largest selling Henna in the world Since 1981 with the brand name of Rani Kone.

“We assure our products as the best in quality and are safe to use. We welcome suggestions from our consumers and act accordingly, as the consumers are of great importance to us, their satisfaction is what we strive for.

“Rani & Company is ISO 9001-2008 certified.

“We also possess Good Manufacturing Practice certificate.

“We have good practices and never use uncompetitive advantages to get ahead.

“We work hard to deliver the best quality to our consumers.”

³²⁶ Bombay Jewel Gallery Art. “Shelly Henna Temporary Tattoo Paste Tube Fresh Mehendi Ready to use,”

Bombayjewel.com. <http://www.bombayjewel.com/Shelly-Henna-Temporary-Tattoo-Paste-Tube-p/hennapi.htm>

(accessed November 13, 2012)

“Henna Temporary Body Tattoo - Ancient body art for modern times....!

Shelly Mehendi Natural Henna Kit provides a very safe and painless way to create beautiful temporary body tattoos. This 100% PURE, ALL NATURAL, traditional red-brown Henna Kit contains NO artificial dyes or chemicals.

1 Shelly Henna Paste Tube - 30 grams each (ready to use, no mixing of powder)

3 Henna Paste Nozzles with each henna paste kit (one thin and pointed for precision and detailing, the other round and thick for stencils,

and the third is flat.) start your own Henna designs.

henna Design Paper - Attractive designs of Mehendi for hands and feet which can be used as a convenient guide while using the cone.

Do-it-yourself directions Guide - Simple and easy step by step instructions for applying the Shelly Henna Paste

Shipping: buy 6 Tube and pay only \$5.99 shipping in US or \$14 for International”

³²⁷ Ebay. “Rani Kone Cone High Quality Henna Paste ‘From Saudi’.” 2012. [http://www.ebay.co.uk/itm/Rani-Kone-](http://www.ebay.co.uk/itm/Rani-Kone-Cone-High-Quality-Henna-Paste-From-Saudi-/150658196393)

[Cone-High-Quality-Henna-Paste-From-Saudi-/150658196393](http://www.ebay.co.uk/itm/Rani-Kone-Cone-High-Quality-Henna-Paste-From-Saudi-/150658196393) (accessed November 13, 2012)

“NAME : RANI KONE HENNA PASTE (ORIGINAL BROWN/RED)

MANUFACTURER : RANI (SAUDI ARABIA)

THE MOST POPULAR HENNA IN THE WORLD

WIDELY USED INTERNATIONALLY

Traditional HENNA packed in a different form for ease application and carry (Pocket size)

Rani Kone really Defines and brings out the Designs on hands & feet nicely making them look

more Attractive, Cool & Refreshed. Waterproof Henna Medically safe, has no side effects & no Irritation.

Longer lasting Enhance your beauty”

³²⁸ Divine Henna. May 2012. “Rani Henna Kone: Product review.” Divinehenna.com.

<http://divinehenna.com.au/?p=1126> (accessed November 13, 2012)

Posted by nicki on May 4, 2012 in Blog | 0 comments

“This tube of henna was picked up on a wild henna shopping spree in Melbourne. I trawled through innumerable Lebanese stores searching out henna products with my finely tuned, sonic henna radar. I found some different powders and a couple of different brands of tubes and a henna nail colour.

“I tested the Rani henna cone a few days ago and was immediately struck by the ammonia or something-from-a-hairdresser’s smell. So we know its not straight henna and probably has something a bit strong to keep the colour. In fact all henna designed to sit around on shelves for months or years must have

chemicals (or something strong) to allow it to keep its colour. So beware of this stuff if you have sensitive skin or allergies and do a patch test.

“So the Rani cone smells funny and it also looks funny, kind of jelly like. And an hour after application I find that it doesn't dry. And the tube tip got blocked.

“So I got impatient with the drying time and removed the paste before it was dry. I was a bit alarmed to find my skin kind of raised and a little 'bubbly'(!). I read the instructions and it suggested applying oil or moisturiser immediately after paste removal (yeah , yeah I should have read the instructions). This did take a way the 'bubbling.' The instructions also said after while I had to wash it (a real no, no in henna land).

“Two days later I have some bright orange henna on my palm, it never oxidised, that is it never darkened, its the same colour with slightly blurrier lines as when I removed the paste. (For those who haven't had henna before henna usually takes up to 48 hours to get its full colour.)”

³²⁹ FDA U.S. Food and Drug Administration. IA #53-19, 8/5/97 -IMPORT ALERT #53-19, "DETENTION WITHOUT PHYSICAL EXAMINATION OF HENNA BASED SKIN COLOR." Attachment Revised 01/29/01.
FDA U.S. Department of Health and Human Services. January 29, 2001.

http://web.archive.org/web/20010610000815/http://www.fda.gov/ora/fiars/ora_import_ia5319.html (accessed December 8, 2012)TYPE OF ALERT: Detention Without Physical Examination

(Note: This import alert represents the agency's current guidance to FDA field personnel regarding the manufacturer or product at issue. It does not create or confer any rights for or on any individual and does not operate to bind FDA or the public.)

PRODUCT: Henna powder

PRODUCT CODE: 53F[[[]]02

PROBLEM: ***Unsafe color additive
[OASIS CHARGE CODE= COSM COLOR - ADULTERATION]***

PAC FOR COLLECTION: 29002

PAF: COL (Colors in foods & cosmetics)

COUNTRY: Pakistan (PK,)

MANUFACTURER: ***SEE ATTACHMENT***

FEI: ***SEE ATTACHMENT***

CHARGE: "The article is subject to refusal of admission pursuant to Section 801(a)(3) in that the article appears not to be a hair dye and it appears to bear or contain, for the purpose of decorating the skin, a color additive which is unsafe within the meaning of Section 721(a) [Adulteration, Section 601(e)]."

RECOMMENDING OFFICE: Los Angeles district, IOB (HFR-PA200)

REASON FOR ALERT: In April, 1997, LOS-DO examined two shipments of a hair color product, brand names Zarqa and Almas for color additives. Neither product has directions for use. However, the labels for both products declare henna as the sole ingredient and depict designs on the hands and feet.

The color additive regulation 21 CFR 73.2190 specifically allows for the safe use of henna in coloring the hair only. The regulation does not allow for the safe use of henna to make colored designs directly on the skin, including the hands and feet.

GUIDANCE: Districts may detain, without physical sampling and analysis, all entries of henna based color ***products*** from the***firms listed in the attachment of this Import Alert.***

For questions or issues concerning science, science policy, sample collection, analysis, preparation, or analytical methodology, contact the Division of Field Science at (301) 443-3320 or 3007.

PRIORITIZATION GUIDANCE: II

FOI: No purging required.

KEYWORDS: Henna, hair dye, color, hair color, Almas, Zarqa

PREPARED BY: Jack Geltman, DIOP, (301) 443-6553.

DATE LOADED INTO FIARS: February 2, 2000
01/29/01

***ATTACHMENT TO IA 53-19

Harumal Gangaram & Co. Henna/53Y[[[199
171 Samuel Street (Khoja Galli) 4/28/00
Masjid Bunder, Bombay -400 009
India
FEI #3002926979

And

Babulal Brijbhushan
Unknown Address, Sojat City
India
FEI #3002983470

Hesh Pharma Henna Powder
B/3, Singh, Industrial Estate No. 1 53F- -01
Ram Handir Road, Goregaon (W) 53G- -99
Mumbai, 400 014, India 10/25/00
FEI #3003110600

M. Manzoor & Co.
13 Sind Market Ma Jinnah Rd.
Karachi, Pakistan
FEI #1000192695

Mehran Spice Industries
P.O. Box 3226

Shersha, Pakistan
FEI #3002903207***

Nasil Rani Kone Henna Paste
F. -124 S.I.T.E. 53F[] []02
Karachi, Pakistan 53G[] []99
FEI #3003218667 1/29/01

Federal Exports International Herbal Henna Pack / 53F--01
166 Double Storey 53G---
New Rajinder Nagar 9/19/00
New Delhi, IN
FEI# 3003065710

Zaiqua Food Industries Henna Powder
51/9 Sector 15 53F--02
Korangi Industrial Zone 53F--003
Karachi, Pakistan 9/28/00
FEI #3002480175

³³⁰ FDA U. S. Food and Drug Administration. "Temporary Tattoos and Henna/Mehndi" April 18, 2001. *U. S. Food and Drug Administration Center for Food Safety and Applied Nutrition Office of Cosmetics and Colors Fact Sheet*. <http://web.archive.org/web/20010821081438/http://www.cfsan.fda.gov/~dms/cos-tatt.html> (accessed December 10, 2012)

"What about henna, or mehndi?"

Henna, a coloring made from a plant, is approved only for use as a hair dye, not for direct application to the skin, as in the body-decorating process known as mehndi. This unapproved use of a color additive makes these products adulterated and therefore illegal. An import alert is in effect for henna intended for use on the skin. FDA has received reports of injuries to the skin from products marketed as henna."

³³¹ <http://www.bioch.ox.ac.uk/~jr/henna/discuss/discuss.html>, outgrew the university server, and was registered as an independent website, hennapage.com .

³³² Rowntree, J. 1995. "Henna painted hands 11 June 1995." <http://users.ox.ac.uk/~rowntree/gallery/3.html> (accessed November 17, 2012)

³³³ Ed. Kraak, M. 2001. Users of Maps on the Web. *Web Cartography*. Van Elzakker, C. P. J. M. Taylor and Francis, London. p 41

³³⁴ Landweber, L.1995. from Castells, M. 1998, *End of Millenium Vol III, The Information Age: Economy, Society and Culture*. Blackwell, Oxford. p.94

³³⁵ Ed. Kraak, M. 2001. Users of Maps on the Web. *Web Cartography*. Van Elzakker, C. P. J. M. Taylor and Francis, London. p 38

³³⁶ Ave-Atque-Vale. Comment, “hahahaha ...” posted to *Hail and Farewell*, 2012, accessed November 23, 2012,

<http://ave-atque-vale.tumblr.com/post/30004405439/image-description-screenshot-of-facebook-photo>

“[Image description: screenshot of Facebook photo and its comment page. Photo shows white girl displaying mehndi on her hands. The relevant comment reads, “Love it! I like how it looks on people with light skin. The artistry stands out so much better.”]

“hahahaha, FUCK YOU FUCK YOU FUCK YOU. yeah everything is so much fucking better with or on white people! INCLUDING THIS! Indian bridal mehndi: sorry, desi folk, it’s nice that you came up with something so pretty, but white people just wear it better!

“it’s a fucking ancient practice described in the earliest Vedic texts, used during festivals and holy days and weddings. it’s a beautiful part of my culture that I love, something I linger over in old family wedding photos, something I’ve worn to temple and during festivals, something I plan to wear at my own wedding someday. and guess what, y’all? apparently, I WILL NEVER DO IT AS WELL AS WHITE PEOPLE.

“I experienced an honest-to-God rage blackout when I found this bullshit on my Facebook newsfeed this morning. It was in no way helped when I tried searching for mehndi photos on Pinterest, and like 50% of them were white girls.

“I just cannot deal with white people who decide that other cultures are so ~COOL~ and ~EXOTIC~ and want a piece. You can look, but don’t touch, okay? Just don’t. I’m glad you think that our “henna tattoos” are so pretty, but before you decide that you want to wear my culture’s clothes and body art and jewelry, before you decide that we’ve created something worthy of your notice so you’ll just swoop in and lift it wholesale, wear my fucking skin for a day.

“Wear my brown skin. Listen to the bullshit you hear when you wear saris and mehndi and bindis, listen to people calling you “dothead” and making fun of your accent and thinking your dad is a terrorist. Wear my brown skin under your fucking henna. You want my culture, don’t fucking half-ass it, you motherfucking white imperialist thief. Take all of it. Take the racism, take the hatred, take the bullshit. Take my wounded civilization forever marked by white imperialism and colonialism, my religion misrepresented and demonized by white missionaries. Take all of it, do you hear me?

“Take all of it and live with it, live with it and love it alongside the pain and grief and fear. And then fucking tell me how pretty you look in mehndi.

“Goddamn white people. This is why we can’t have nice things. I literally cannot check my goddamn Facebook or fuck around having some fun on Pinterest without some jackass reminding me of my place in the world, reminding me that even when my culture isn’t the object of outright derision and hatred, it’s going to be exoticized and stolen and “so much better” when it’s performed by people with white skin.

“These same people will naturally totally fail to understand why you’re pissed off because how it can be racist when the perpetrator just really LIKES something, they’re celebrating your culture (by stealing it, after trampling it and shaming you for it), omg WHY ARE YOU BEING SO MEAN?!”

³³⁷ Umm Fauziyah. Comment, “Re: How to get black henna...” posted to *The Henna Page Discussion Forum* July 07, 1997, accessed November 14, 2013,

<http://web.archive.org/web/20010520022733/http://www.hennapage.com/henna/discuss/messages/853.html> Posted by umm fauziyah on December 05, 1997 at 04:55:48:

In Reply to: Re: How to get black henna... posted by jennifer on July 07, 1997 at 18:05:36:

“I am rather concerned about so-called henna artists with experience that spans a whole of one or two years who claim to be the authority on henna. A very dear friend has referred to the popularity in henna as another form of "cultural plagiarism". When something that the non-white, non-Anglo, non-Christian, non-western society does anything for generations, it has been declared as backward, unattractive, old-fashioned, strange, etc., etc. However, when appreciated by a popular figure (like Demi Moore) out come the "specialists" and "authorities" to tell us what our mother's mother told us when we were babies. Masha Allah. Thanks for letting me vent.”

³³⁸ Ed. Kraak, M. 2001. Users of Maps on the Web. *Web Cartography*. Van Elzakker, C. P. J. M. Taylor and Francis, London. p 39

³³⁹ Hennapage.com. 2006. *Clustrmap*. Clustrmaps.com

³⁴⁰ Kellerman, A. 2002. *The Internet on Earth: A Geography of Information*. John Wiley and Sons, LTD. p 6.

³⁴¹ Brown, J. F., Duguid, P. 2002. *The Social Life of Information*. Harvard Business School Press. Boston Mass. p. 128.

³⁴² Kellerman, A. 2002. *The Internet on Earth: A Geography of Information*. John Wiley and Sons LTD.. Chichester, England. pp. 1 - 4

³⁴³ Amelia Dręgiewicz. Comment “eating chinese food, listening to spanish music, drawing indian art,” posted to Amelia Dręgiewicz Facebook. November 27, 2012 <https://www.facebook.com/amelia.dregiewicz> (accessed November 27, 2012)

Amelia Dręgiewicz, “eating chinese food, listening to spanish music, drawing indian art”

Prateek Gangopadhyay, “And how it feels?”

Amelia Dręgiewicz, “it seems to me that it fits together ;)”

Prateek Gangopadhyay, “You can opt for Indian music too.”

Kendra Williams “And writing on FB in English... I think you are definitely multicultural !!!”

Amelia Dręgiewicz, “and I am Polish! :P”

Prateek Gangopadhyay, “No comments! :-P”

³⁴⁴ Yusuf, H. 2008. No Henna for Suleri. *Himal Southasian*. The Southasia Trust, GPO Box: 24393, Kathmandu, Nepal <http://www.himalmag.com/component/content/article/1027-no-henna-for-suleri.html> (accessed November 24, 2012)

“... it confirm(s) preconceived notions about places such as Southasia as ostentatious, exotic, spiritual and static... Southasia as the West would see it – laden with its hennaed hands, jasmine flowers in long hair, and innocent women – while not simultaneously showing the sometimes squalid truths of everyday

realities, are involved in what Suleri dubs 'third-person consciousness'. "It's the anguished position of always seeing yourself as the other would see you."

³⁴⁵ Leonard, C. Madonna. 1998. "Frozen." *Ray of Light*. Maverick Records.

Frozen was released as the lead single from the album on February 23, 1998 by Maverick Records.

³⁴⁶ <http://celebslife.net/category/madonna/page/11/> (accessed January 29, 2012)

³⁴⁷ Wilde, L. 1999. *The Art of Mehndi: Sumita Batra, Henna body Painter to the Stars*. Penguin Studio. Cover.

"When Sumita hennas my hands and feet, I am transported to another time and place-
a world of magic, passion and romance." - MADONNA

³⁴⁸ Fashion UKS.com. 2011. madonna-henna-tattoo-usa-body-art. <http://fashionuks.com/henna/eid-ul-fitr-celebrity-henna-tattoo-usa-and-mehndi-body-art-indian-celebrity/attachment/madonna-henna-tattoo-usa-body-art/> (accessed November 23, 2012)

³⁴⁹ Ziba Beauty. "Why Is Ziba Beauty The Secret of The Stars?" Zibafranchise.com. 2012.

<http://zibafranchise.com/research-ziba-beauty/why-is-ziba-beauty-the-secret-of-the-stars/> (accessed November 24, 2012)

"When Ziba Beauty opened in the 1980s in Los Angeles, we thought we would service Asian and Indian women. We did and word spread. Eventually, we started attracting non-Asian friends of our clients, including influential people working in makeup and styling in the movie industry. A stylist once wore Ziba Beauty mehndi to a party and started a trend – high profile entertainers began adopting Asian beauty methods into their appearances. Perhaps you noticed the intricate mehndi designs that actress Liv Tyler sported in a *Vanity Fair* photo spread. Batra did those herself; it's one of our proudest moments. Word got out, and soon Madonna and Hilary Duff were coming into Ziba locations for mehndi and glitter mehndi work for their music videos."

³⁵⁰ Watanabe, T. 2008. Beauty salon chain is sued in labor dispute. Former Ziba workers say they put in long hours with no breaks. *Los Angeles Times*. June 23, 2008. <http://articles.latimes.com/2008/jun/23/local/me-beauty23> (accessed November 27, 2012)

"For two decades, Ziba Beauty salons have brought the ancient Indian techniques of eyebrow threading and henna tattoos to a clientele that has included Madonna, Gwen Stefani, Salma Hayek and Naomi Campbell.

"Ziba Chief Executive Sumita Batra, 39, and her staff have styled models for *Vanity Fair* and *Rolling Stone* magazines and TV shows "America's Next Top Model" and "Extreme Makeover." But now Batra and her family partners are accused of building their business by exploiting workers, many of them female immigrants. Former Ziba workers filed a class action lawsuit last week alleging the owners of the 11-store salon chain failed to give them the minimum wage, overtime compensation and meal and rest breaks.

"The plaintiffs include Payal Modi of India and Bishnu Shahani from Nepal, who say they were paid as little as \$4 an hour at the salon, denied rest breaks and required to deliver hours of free henna tattooing services at parties.

"The women, who say they were fired in January for challenging the salon's labor contracts, have since opened their own salon in Culver City.

"A lot of people don't read or speak English. They don't know California law," said Modi, who immigrated to Los Angeles in 2001. "So we have to fight for them."

"Batra declined an interview request. But her attorney, Navneet Chugh, denied the allegations. All of the salon's beauty workers receive medical benefits, lunch and rest breaks and legal wages, he said. In 2007, three-fourths of the 60 beauty workers on the payroll earned between \$18,000 and \$55,000 a year plus tips, he said."

³⁵¹ The Thread. "Madonna's Best Costumes Ever" *Shine*. Yahoo.Inc. 2012.

<http://shine.yahoo.com/photos/madonnas-best-costumes-ever-slideshow/-photo-2436632-201000766.html> (accessed November 17, 2012)

"Performing "Shanti / Ashtangi" at the 1998 MTV VMAs
To promote her new "Ray of Light" album Madonna appeared on stage with many arms to resemble Kali, the Hindu goddess. This look single-handedly started the henna tattoo craze."

³⁵² "Madonna." *Voguepedia*. 2012. <http://www.vogue.com/voguepedia/Madonna> (accessed December 1, 2012)

³⁵³ Rush, G., Molloy, G., Baram, M., Baker, K. C. 1998. "Madonna's Bad Karma Stirs Hindu Hullabaloo" *Daily News*. Tuesday, September 15, 1998 Date: Tue, 15 http://articles.nydailynews.com/1998-09-15/gossip/18082008_1_gwen-stefani-taki-offended (accessed November 22, 2012)

"Madonna's Bad Karma Stirs Hindu Hullabaloo

"Madonna fended off new charges of religious blasphemy yesterday. The Material Mom, who has riled the Catholic Church almost as often as the Pope has uttered the Lord's Prayer, now has offended a Hindu group.

The World Vaishnava Association wants the singer to apologize for what it sees as her sacrilegious performance on last week's MTV Video Awards. The group issued a statement from its U.S. base in Sacramento this weekend condemning her for wearing henna marriage markings, which represent purity, while "gyrating in a sexually suggestive manner" and wearing "clothing through which her nipples were clearly visible."

"The essence of purity and divinity is nonjudgment. They should practice what they preach. If they're so pure, why are they watching MTV?" Madonna said through her publicist Liz Rosenberg, who described the yoga-practicing singer as "very surprised" by the criticism.

"She certainly had no intention of insulting anyone. On the other hand, I personally don't see that an apology is in order," Rosenberg said. "I don't think this organization is necessarily speaking for an entire community. A number of Indian magazines have requested photos of her because they thought she looked so beautiful."

"She doesn't know why they're picking on her," added Rosenberg, who noted that Gwen Stefani, lead singer of No Doubt, also wears the henna symbols. "Why don't they pick on Gwen Stefani?"

³⁵⁴ Marron, A. 1998. *The Henna Body Art Kit: Everything You Need to Create Stunning Temporary Tattoos*. Journey Editions. Boston, MA.

³⁵⁵ Fabius, C. 1998. *Mehndi. The Art of Henna Body Painting*. Three Rivers Press. New York, NY

³⁵⁶ Roome, L. Mehndi. 1998. *The Timeless Art of Henna Painting*. St. Martin's. New York, NY

³⁵⁷ Batra, S., Wilde, L., Gardner, A. M. 1999. *The Art of Mehndi*. Studio.

³⁵⁸ Nichols, P. 1999. *The Art of Henna; The Ultimate Body Art Book and Kit With Book*. *Celestial Arts*. Petaluma, CA.

³⁵⁹ Nichols, P. 1999. *The Art of Henna; The Ultimate Body Art Book and Kit With Book*. Celestial Arts. Petaluma, CA. p. 6

"Hundreds of henna designs were spread before us, and we were asked to choose the one we wanted. After several hours pondering over the right design, as we lounged on beautifully embroidered pillows from an Indian bazaar, my daughter and I began to feel ourselves being transformed. The smolder-eyed women began calmly and quietly drawing on our skin, so warmly and intimately. We reclaimed our ancestry. We were immediately sisters. We became goddesses, feeling with each stroke on our skin a glowing sense of beauty, power, strength and mystery. As the designs were painted on our bodies, we were transported magically into other realms. Through the art on our skin we were participating in something primitive and profoundly communal. ... Our imaginations soared with fantasies of desert tribes, mountain shangri-las and mermaids. I understood in my body the value of henna artistry as a ritual at weddings, births and deaths."

³⁶⁰ Nichols, P. 1999. *The Art of Henna; The Ultimate Body Art Book and Kit With Book*. Celestial Arts. Petaluma, CA. p 69

³⁶¹ Fabius, C. 1998. *Mehndi: The Art of Henna Body Painting*. Three Rivers Press. New York, NY

³⁶² "Paint the Body Beautiful." Earth Henna. Lakaye Studio. Los Angeles. <http://www.earthhenna.com/Nude-11-c72.html> (accessed December 1, 2012)

³⁶³ Lakaye Studio. "Paint the Body Beautiful. Earth Henna." Earthhenna.com. <http://www.earthhenna.com/Nude-7-c68.html> (accessed December 1, 2012)

³⁶⁴ Maira, S. 2007. "Indo-Chic: Late Capitalist Orientalism and Imperial Culture," in *Alien Encounters: Popular Culture in America*. edited by Nguyen, M. and Nguyen Tu, T. Duke University Press. 221.

³⁶⁵ Maira, S. 2007. "Indo-Chic: Late Capitalist Orientalism and Imperial Culture," in *Alien Encounters: Popular Culture in America*. edited by Nguyen, M. and Nguyen Tu, T. Duke University Press. 225.

³⁶⁶ Roome, L. *Mehndi : The Timeless Art of Henna Painting*. St. Martin's. New York, NY

³⁶⁷ Maira, S. 2007. "Indo-Chic: Late Capitalist Orientalism and Imperial Culture," in *Alien Encounters: Popular Culture in America*. edited by Nguyen, M. and Nguyen Tu, T. Duke University Press. 226.

³⁶⁸ Vanity Fair. 1997 Vanity Fair cover. <http://midi-chlorian.blogspot.com/2010/09/mehandi.html>

³⁶⁹ Rusko. Comment, "The Ladies Love: Gwen Stefani" posted to *A peek into my gray matter*, 2010, accessed November 13, 2012, <http://keepitight.wordpress.com/2010/07/24/the-ladies-love-gwen-stefani/>

"Henna? What the hell is henna? Only Miss Stefani could make an appearance on Saturday Night Live rocking weird shit on her hands only to start the next biggest trend in teenage fashion. Suddenly, like those bindis, henna kits started appearing at Wet Seal and Contempo Casual stores nationwide. Wow."

³⁷⁰ Intel Corporation. "Breathtaking meets groundbreaking." 2011. Visibly_Smart.

³⁷¹ Crazy Planet. "Henna Oriental Tattoos. 2 Mega Tattoos & Bubble Gum with Tattoo." 8g. New World Marketing Group LLC. Crazy Planet S. A. Barcelona

³⁷² "In The Flesh" editorial. Volume 1, No 2. 1996.

³⁷³ National Geographic Holiday 2011 Catalog.

"Products inspired by more than a century of exploration. Discover our unique collection of beautiful, handmade objects from around the world."

"Gifts that make a difference. Your purchases help support our mission of research, education, conservation, and exploration."

³⁷⁴ Blunt, A., Gruffudd, P., May, J., Ogborn, M., Pinder, D. 2003. *Cultural Geography in Practice*. Routledge. P.1

"When you know that its aim is to provide a representation of the cultural experience of young Bengali women in London, you might try to understand its visual and textual signs in these terms. What we see is a woman stitching together different materials, - blue denim and silk - associated with 'West' and 'East.' The woman's henna-patterned-hands and bracelets suggest the pleasures of celebrations, while the sewing machine's associations are with the sort of poorly-paid work that many Bengali women in Britain do at home or in small factories."

³⁷⁵ "Habba Alert: Black Henna Fingertips. Myself?" Danderma. 2012. accessed December 2, 2012.

<http://www.danderma.co/?p=18509>

"Well, ever since I was a child I've loathed henna. I hated the smell, the way they made pouches out of your hands covered in fabric, the tint of orange, the mess. I might have been the only little girl in the 80's who ran a mile away whenever I saw or smelt a whiff of henna. Never a fan, never will be.

"As a child one of my aunts told me, in order to get me to put henna on, that heaven smelled like henna and I started screaming hysterically that I didn't want to go to heaven. I didn't calm down until I was told I had the option to not smell henna in heaven. God only knows how true that is.

"M on May 1, 2012 at 15:53.

"I hate henna too!!! Especially on the fingers and finger nails...it just doesnt look good to me! Plus the smell especially in summer is awfulllllll

“vishal on October 14, 2012 at 17:00.
“i hate henna too...smell too bad...what to do...tell me”

³⁷⁶ Lifestyle Sabla. “Are you a henna fanatic?” English Sabla Discussion Forum. 2009. Oman.

<http://www.englishsabla.com/forum/archive/index.php/t-67119.html> (accessed December 17, 2012)

Are You A Henna Fanatic?

Kitten 19-09-09, 01:42 PM

“Eid's on the way and the majority of the Khaleejis apply Henna at this time of year. So how many of you girls like to have her hands decorated with Henna? A poll would do,
Are you a henna fanatic? - Yes. - No. And how do you like your Henna? Which type of Henna do you prefer?”

Kitten 19-09-09, 01:42 PM

“I'm not a major fan of Henna, but on occasions like Eid, I'd go for black henna without the filling.”

Miss Twix 19-09-09, 01:44 PM

“I love henna and i do it in special occasions like Eid... I hate black henna, i did it once and i got this stupid bad rash on ma hands.. since i did henna before couple of months i dont feel like doing it for this eid.. anyways i love the henna's smell and the design it looks awesome :D”

Muggle 19-09-09, 02:33 PM

“I hate henna! I find the smell disgusting. I used to get it done once in a blue moon but a few days later I'd get sick of it and I'd want nice, clean hands again :P.The last time I had it done was around 3 years ago and it was a simple design and only on the upper side of one hand. I like my hands to be clean of everything, with the exception of nailpolish.”

delta619 19-09-09, 02:43 PM

“dislike the smell.... mom used to apply it on herself on those rare days i never used to venture around the kitchen and living room!!!”

Hazel 19-09-09, 03:06 PM

“I LOVE HENNA , and i love the smell. I DONT feel the Eid without putting henna :d
ill post my henna pic later..I Posted via Mobile Device”

Innocent 19-09-09, 03:40 PM

“I like henna, But I hate applying it on my legs and fingers.. never tried Black henna.”

Storm 19-09-09, 03:47 PM

“I love Henna :love: I put henna all time - especially in Eid and different occasions”

Cherry 19-09-09, 05:11 PM

“I'm not a henna fanatic, but I've already got mine done for Eid:)”

Hazel 19-09-09, 05:14 PM

<http://i116.photobucket.com/albums/o36/sanoora/DSC01083.jpg>

Innocent 19-09-09, 05:20 PM

“Love the henna design Copyright. ^”

Abdullah 19-09-09, 05:50 PM

“I voted yes :p. I hate the smell of Henna. I hate it so much! and I always hate how women fingers and toes look like after the henna disappears. They look like cockroaches! Long live BrAiKi”

Hazel 19-09-09, 05:55 PM

“thanks innocent freeze: i hope you get a wife who cannot live without henna :d”

XgirL 19-09-09, 05:57 PM

“I HATE it !! the smell is gross, disgusting ...etc ! not my thing at all! I was forced to put henna for my aunt's wedding couple of years ago and thats it!!”

Frozen Flame 19-09-09, 06:11 PM

“^Lovely Design copyright. i love black henna, cuz we muslims cant have tattos -.- but anyways i hate Red henna when it fades and sometimes the smell makes me sick”

Nerda 19-09-09, 08:05 PM

“i loooove Henna so much and i le the smell of Henna =D i wait for weedings and Eid just to put Henna but too bad this Eid i wont put Heena”

xlilyx 19-09-09, 08:31 PM

“i lone henna espically the smell i dunno wt type it is its the brown red one :P”

Fact HearT 19-09-09, 08:34 PM

“It looks good on those young girls.. in its first days though, BUT when it starts to disappear I HATE IT :yuk:”

Nella 19-09-09, 08:39 PM

“I like henna. it's nice :) not a fanatic though. I hate the smell of Henna. I hate it so much! and I always hate how women fingers and toes look like after the henna disappears. They look like cockroaches! Encore!! hahaha!”

Joori 20-09-09, 12:52 AM

“Love it, but hate the smell. Yet I still put it on accasions and sometimes when I feel like it. I always apply the normal Henna, cause I don't like the black one. However, when it's comes to the design, I'm very picky.”

Emie 20-09-09, 12:55 AM

“yes i am :)”

Matiii 20-09-09, 04:57 AM

“I hate the smell ! -.- But I so love the henna on my baby sis's hands .. so cute !”

~*Peony 20-09-09, 05:44 AM

“Ughh I hate it's smell! The only one time I applied brown henna was when I was 5 years old or something! Haha and I absolutely hated it. Only starting from 2 years ago, I started applying again, but only for special occasions like Eid.. of course since I absolutely hate the smell, I go for the black one with really simple designs. Don't like my hands to be too crowded. :P”

Superbia 20-09-09, 01:21 PM

“I love it :heart:”

J'adore 20-09-09, 01:39 PM

“I'm not a fan, I think it looks ugly. If I HAD to choose, I'd pick the black over the orangish red color, any day.”

Miss_Crocodilo 20-09-09, 02:32 PM

I'm allergic to Henna (all types of Henna). So I would go for a no.”

Angel_Eyes 20-09-09, 02:38 PM

"I like henna. I like the smell too, but I'm not a fanatic. I've not put on henna for eid (or for any occasion) for more than 5 years. :os"

Charm 20-09-09, 04:27 PM

"Am no big fan of Henna but if I had to put it than I'd suck it up & put it, lol."

Sarz 22-09-09, 01:11 PM

"YES!

"I love henna, love putting on for myself or on other people's hands (mainly siblings at the moment, still not good) I adore the smell <3"

pixie girl 23-09-09, 04:03 PM

"I like the way it looks but the smell gives me a headache >"

ShorrtY 25-09-09, 12:54 PM

"i don't do "na8sh" i'd draw skulls rrrr instruments or 7arakat weird objects, drawing r writings."

NaBHaN 26-09-09, 01:23 PM

"I like the way Dark Henna looks, almost like a tato, and it doesn't smell as bad as the lighter brown/orange-ish one, but generally I am not in favor of it, the smell is a turn off for me."

Tinta 26-09-09, 01:31 PM

"I love henna. I love the feeling when I just applied henna and wake up in the morning with the scent of it, and dark brown designs. :heart: But what I hate the most is like after a week of henna in my hand it starts to fade away in a really icky way."

death rose 28-09-09, 12:56 AM

"i Looove henna! and im doing henna sudani for next eid :D (looks better on me) the black one"

Booth 28-09-09, 01:27 AM

"I like Henna only when it's one day old, before or after that I hate it."

El Rey 28-09-09, 01:33 AM

"I love the henna on girls :love:"

Tinta 28-09-09, 01:49 AM

"Shorty, I don't think that;s considered henna :p"

M!nT 28-09-09, 04:13 AM

"I love the way henna looks the first few days! but most of the times I am too lazy to apply henna on my hands =P

I try to have more patience in special occasions like eid though, but I agree with you guys.. I hate the smell + I hate it when it fades away or leaves orange marks on your nails that hardly go away!

blue-bling

01-10-09, 01:22 AM I am a big fan of Henna <3<3 And the awesome thing is that it stays for long in my hand :angel: But I have been told that the Sudani Henna is not good from the skin?"

Booth 01-10-09, 02:14 AM

"^Yeah, it has many harmful chemicals that are bad for the skin, it's also disapproved by the Health Ministry."

FAITH86 01-10-09, 02:13 PM

"I hate it. I hate its smell!"

Pecadora 19-07-10, 01:58 AM

"Love it! Just had it done yesterday =D I don't need an occasion to get it done, whenever I feel like it, I do it =D! The smell doesn't bother me thank god, I can live smelling it for a while hehe! But I don't like it have it on my nails! Takes ages to go. So I just go with hands and feet!"

business girl 20-07-10, 05:38 PM

"i like henna i mean i brefare if its simple Khaliji style but i hate the hindi style"

Gypsy 20-07-10, 05:44 PM

"I like doing the design and how it is on others... but personally I can't stand the smell, nor the patients to sit while it gets dry.... I think I stopped putting Hina about 10years back now."

Alex Belucci 20-07-10, 05:46 PM

I HATE the smell of Henna. I even remember once when I was a kid I asked someone older: 'When I get married do I have to put Henna?' lool!

FLORENTYNA 20-07-10, 05:50 PM

"No I am not a fan!!!"

Elvira 20-07-10, 06:05 PM

"I hate henna, I hate how it smells. >< Buut! It looks nice on some people:p."

Lacrymosa 21-07-10, 08:48 PM

"No. I don't like wearing henna because it hides the beauty of my hands. :p Haha :XD:"

Listen2theOcean 21-07-10, 08:51 PM

"I do love henna and put it sometimes"

Superbia 21-07-10, 09:43 PM

"I think it looks really pretty, especially the black kind of henna, as it makes the designs stand out much more. I don't get it done frequently, but when I do I really love it!"

Abu Eliyas 22-07-10, 03:03 AM

"OMG henna thread :p:os:mmhmm:"

Assim 23-07-10, 02:37 AM

"I never had a problem with the smell, so it never bothered me if someone was nearby me with the henna smell. As for the simple henna designs, it looks good on girls' hands, I just don't like the crowded/detailed henna."

Booth 23-07-10, 02:44 AM

"I'm starting to like the Sudani (Black) one more now, it has all the advantages except the health thingy. Simple designs look cute with the black one. Red one should be very delicate to look good, which is why I banned it from my hands."

Loso 23-07-10, 03:11 AM

"Its ok as long as its simple and not A LOT About the smell its ok too :p"

Loso 23-07-10, 03:12 AM

Voted for nothing :P

ChezChez 23-07-10, 03:16 AM

"I love it and I love the smell. :love:"

Beach_lover 23-07-10, 12:41 PM
"I dont like henna, its just much like Indian tradition.."

MooNi 25-07-10, 12:11 AM
"Hate it and hate it's smell yuck yuuuuck :Sick:"

BrAiKi 26-07-10, 03:29 AM
"I hate the smell of Henna. I hate it so much! and I always hate how women fingers and toes look like after the henna disappears. They look like cockroaches! I still hate Henna. :yuk:"

Rummy 26-07-10, 04:08 PM
"I so love henna :love: but given how busy my schedule is, I never get the chance to have it on my hands."

Hardcore Beauty 26-07-10, 07:34 PM
"I love Henna. :heart: I think that it's the best accessory a girl could wear on her hands."

³⁷⁷ Maira, S. 2007. "Indo-Chic: Late Capitalist Orientalism and Imperial Culture," in *Alien Encounters: Popular Culture in America*. edited by Nguyen, M. and Nguyen Tu, T. Duke University Press. p 231.

³⁷⁸ Lodder, M. 2011. "The myths of modern primitivism." *European Journal of American Culture* 30, no. 2: 99-111. 100. *Academic Search Complete*, EBSCOhost (accessed October 30, 2012).

³⁷⁹ The Mindful Body. *Bodywork & Holistic Lifestyle Education*. "Celebrate Life's Beauty"

<http://amindfulbody.com/mehendi/> (accessed December 1, 2012)

"Mehendi is ancient art of applying sacred yantras (symbolic designs used to balance and focus energy) onto the hands and feet with henna paste (a paste made from the powdered leaves of the henna plant and often infused with essential oils). Once the paste is applied, it is left on the skin for 6-8 hours and when it is washed off, it leaves behind a beautiful, dark burgundy stain that lasts 1-2 weeks. As the henna paste dries and its drying properties sink into the skin, it carries with it the sacred blessings and intentions of the yantras that have been applied, infusing them deep into the soul."

³⁸⁰ Mehndi Dream Meditation Workshop. "EnshrineDesign: Henna Body Adornment." EnshrineDesign. November 14, 2010, accessed December 1, 2012, <https://www.facebook.com/events/146003998774778/>

A journey to discover sacred spirit totems

"Behind every tattoo or body marking is a vast tribal history either within the context of an individual's birth family, consciously chosen community or personal spiritual journey. In this two-hour workshop, the first hour will delve into the history of Mehndi (henna), its physical origins, and multiple uses throughout history in both practical and sacred contexts. Participants will be encouraged to share their past self body adorning memories of markers, pen or even permanent "ink" as we collectively explore the poignancy of adorning our bodies. We will discuss the Western contemporary fascination with permanent tattoos and temporary henna in the past decades.

"Following this discussion there will be a guided meditation so that each of us may uncover any sacred spirit totem that speaks to us. It will be a meditation that merges our sacred vessel body; that which is the Adorned, with the sacred etheric body where we connect to the worlds of spirit. Each participant will get to know their own totem and why it appeared to them.

“Finally, with assistance and instructions for henna, we will then adorn one another with the image of ones totem.”

³⁸¹ Mehndi Mama Carrin. “Quantum Mehndi -Divinatory henna body art for emotional, cellular, & DNA re-patterning” Mehndimama.com. 2004. <http://www.mehndimama.com/quantum.html> (accessed December 1, 2012)

“Mehndi is a time honoring, prehistoric tradition. It is an ancient sacred art form that has been used for centuries to bless & adorn. Integrating ancient & contemporary I use the human body as the ultimate canvas for "Time is Art" Galactivation. I define Galactivation as utilizing frequency through all of its manifestations -sound, light, color, & cymatical (visual) representation- to activate/galactivate our consciousness for evolution.

“I combine sacred symbols from all time periods and cultures, along with astrological, planetary, lunar, and ancient time-keeping symbolism. I use gem essences, planetary essences, flower essences, & reiki, along with other frequency, energy, & quantum therapies to enhance the henna paste for specific intentions/frequencies. I then paint the meridian lines & areas of the body that correlate with these intentions.

“It is my belief that when painted with intention and frequency, we will activate our own biochemisterical/frequency field. And given the fact that we are very visually stimulated as a human race, every time we look at the design/frequency, it increases it's potency exponentially. Providing the receptivity to 'channel' the art that wants/needs to be on the body, the music that wants/needs to be heard, and the evolution that wants/needs to transpire.

“Human consciousness is evolving, and the navigation of frequency is essential.”

³⁸² “Mere Conicidence.” *Miss Scarlet 16*. accessed January 29, 2010,

<http://missscarlet16.blogspot.com/2001/02/mere-coincidence.html>

³⁸³ Earth Henna. 2003. Paint the Body Beautiful. FAQs. Frequently-Asked Questions About Henna and Henna Tattoos. Lakaye Studio. <http://www.earthhenna.com/FAQs-c108.html> (accessed December 10, 2012)

“Q. What's in the Earth Henna kit paste solution?

“A. Ingredients are listed on our packaging:

“ Water sorbitol — corn
Glycerin — vegetable
Black walnut extract — tree
Benzyl alcohol — flower oil, balsams
Citric acid — fruit
Eucalyptus oil — tree
Disodium EDTA — processed salt
Lactic acid — sugar cane”

³⁸⁴ Mendonca, C., V. Madan, S. Austin, and M. H. Beck. 2005. "Occupational contact urticaria from walnut associated with hand eczema." *Contact Dermatitis (01051873)* 53, no. 3: 173-174. *Academic Search Complete*, EBSCOhost (accessed December 10, 2012).

³⁸⁵ FDA U.S. Food and Drug Administration. IA #53-19, 8/5/97 -IMPORT ALERT #53-19, "DETENTION WITHOUT PHYSICAL EXAMINATION OF HENNA BASED SKIN COLOR." Attachment Revised 01/29/01.

FDA U.S. Department of Health and Human Services. January 29, 2001.

http://web.archive.org/web/20010610000815/http://www.fda.gov/ora/fiars/ora_import_ia5319.html (accessed December 8, 2012)

IA #53-19, 8/5/97 -IMPORT ALERT #53-19, "DETENTION WITHOUT PHYSICAL EXAMINATION OF HENNA BASED SKIN COLOR" Attachment Revised 01/29/01

TYPE OF ALERT: Detention Without Physical Examination

(Note: This import alert represents the agency's current guidance to FDA field personnel regarding the manufacturer or product at issue. It does not reate or confer any rights for or on any individual and does not operate to bind FDA or the public.)

PRODUCT: Henna powder
PRODUCT CODE: 53F[[[]]02
PROBLEM: ***Unsafe color additive
 [OASIS CHARGE CODE= COSM COLOR - ADULTERATION]***
PAC FOR COLLECTION: 29002
PAF: COL (Colors in foods & cosmetics)
COUNTRY: Pakistan (PK,)
MANUFACTURER: ***SEE ATTACHMENT***
FEI: ***SEE ATTACHMENT***
CHARGE: "The article is subject to refusal of admission pursuant to Section 801(a)(3) in that the article appears not to be a hair dye and it appears to bear or contain, for the purpose of decorating the skin, a color additive which is unsafe within the meaning of Section 721(a) [Adulteration, Section 601(e)]."

RECOMMENDING OFFICE: Los Angeles district, IOB (HFR-PA200)

REASON FOR ALERT: In April, 1997, LOS-DO examined two shipments of a hair color product, brand names Zarqa and Almas, for color additives. Neither product has directions for use. However, the labels for both products declare henna as the sole ingredient and depict designs on the hands and feet.

The color additive regulation 21 CFR 73.2190 specifically allows for the safe use of henna in coloring the hair only. The regulation does not allow for the safe use of henna to make colored designs directly on the skin, including the hands and feet.

GUIDANCE: Districts may detain, without physical sampling and analysis, all entries of henna based color ***products*** from the***firms listed in the attachment of this Import Alert.***

For questions or issues concerning science, science policy, sample collection, analysis, preparation, or analytical methodology, contact the Division of Field Science at (301) 443-3320 or 3007.

PRIORITIZATION GUIDANCE: II

FOI: No purging required.

KEYWORDS: Henna, hair dye, color, hair color, Almas, Zarqa

PREPARED BY: Jack Geltman, DIOP, (301) 443-6553.

DATE LOADED INTO FIARS: February 2, 2000 ***ATTACHMENT TO IA 53-19 01/29/01

Harumal Gangaram & Co. Henna/53Y[[[]]99

171 Samuel Street (Khoja Galli) 4/28/00
Masjid Bunder, Bombay -400 009
India

FEI #3002926979
And
Babulal Brijbhushan
Unknown Address, Sojat City
India

FEI #3002983470
Hesh Pharma Henna Powder
B/3, Singh, Industrial Estate No. 1 53F- -01
Ram Handir Road, Goregaon (W) 53G- -99
Mumbai, 400 014, India 10/25/00

FEI #3003110600
M. Manzoor & Co.
13 Sind Market Ma Jinnah Rd.
Karachi, Pakistan
FEI #1000192695
Mehran Spice Industries
P.O. Box 3226
Shersha, Pakistan

FEI #3002903207***
Nasil Rani Kone Henna Paste
F. -124 S.I.T.E. 53F[] []02
Karachi, Pakistan 53G[] []99

FEI #3003218667 1/29/01
Federal Exports International Herbal Henna Pack / 53F--01
166 Double Storey 53G---
New Rajinder Nagar 9/19/00
New Delhi, IN

FEI# 3003065710
Zaiqua Food Industries Henna Powder
51/9 Sector 15 53F--02
Korangi Industrial Zone 53F--003
Karachi, Pakistan 9/28/00
FEI #3002480175

³⁸⁶ Pomaska, A. 2001. *Henna Tattoos*. Dover Publications, Inc.

³⁸⁷ Pitts, V. 2003. *In the Flesh: The Cultural Politics of Body Modification*. Palgrave Macmillan. Page 146-7

³⁸⁸ Mehndi Body Art Henna Tattoo Stencil Kit. Author's collection, purchased from Mr. Fun's, 2008, Kent, Ohio.

Mehndi Body Art Henna Tattoo Stencil Kit: black powder is labeled '100% natural henna,' with no further ingredient declaration

Temporary Henna Stencil Tattoo Kit

1. Apply tencil sticker of your favorite design

-
2. Apply henna paste
 3. Wait 3-4 hours and remove sticker and dried henna paste.

You now have a new tattoo that will last up to 3 weeks depending on how well you maintain your tattoo and your skin type. Professional Quality and Results.

Some contents may be imported from India and Pakistan. A Deep Product Distributed by Mehndi Body Art, Long Beach, Ca. 90808

³⁸⁹ Amunez Temporary Tattoos - Temporary tattoo paint. Copyright © 1999 Amunez International.

<http://web.archive.org/web/20010605181052/http://www.amunez.com/> (accessed December 15, 2012)

Headquarters
Blok K, No 16,17,18,19
Siligitha,
Nusa Dua, Bali,
Indonesia.
Tel/Fax: 62 361 771739
Email: amunez@indo.net.id

³⁹⁰ Black Henna. "BlackHenna.net Temporary tattoo paint in Super Black" blackhenna.net 2000.

<http://web.archive.org/web/20001004044543/http://blackhenna.net/cgi-local/shop.pl/page=acceuil.html> (accessed August 12, 2013)

"Temporary tattoo paint in Super Black for tattoos that are long lasting, durable, waterproof and easy to apply!

"blackhenna.net has been producing temporary tattoo paints since 1997. Our product is now sold in over 21 countries and is also used in the movie and pop music industry.

"The black henna paint is a Super Black, which can last on the skin for up to 14 days. There have been some reports of skin life up to 6 weeks.

"Other paints on the market are not as easy to prepare, apply and maintain. Our unique formula is for those who can't be bothered with arduous preparation of the skin and then, on going care and maintenance. With our product, once the powder and water is mixed, it's just a matter of applying the paint, give it 30 minutes to dry on the skin, wash the 'crusty residue' off properly....and then enjoy your tattoos for anywhere between 10days and 6 weeks. (the usual is 10 to 15 days, but some have been known to last 6 weeks.....it depends on your skin type).

³⁹¹ Amazing Body Art Supply. "Black Henna Powder and Black Henna Tattoo Kits." Big Bang Products. 1999.

<http://web.archive.org/web/19991128040841/http://www.amazingbodyart.com/newpage14.htm> (accessed December 15, 2012)

Amazing BodyArt Hollywood!
270 N. Canon Drive, Ste. 1934, Beverly Hills, California 90210
Ph: Toll Free (800) 825 - 6980 or (310) 652-7754

³⁹² Black Henna Kits. "NEVER AVAILABLE TO THE PUBLIC BEFORE!!!!!"

PROFESSIONAL QUALITY BLACK HENNA." Blackhennakits.com. 2001.

Black Henna Kits
P.O. Box 450801
Sunrise, Fl 33345
(954)326-9211
info@blackhennakits.com

³⁹³ Amunez. "Amunez Temporary Tattoos - Temporary tattoo paint." Amunez.com Copyright © 1999. Amunez International. 1999. <http://web.archive.org/web/20010605181052/http://www.amunez.com/> (accessed December 15, 2012)

"Amunez Temporary Tattoo paint first came onto the market in late 1997. It was created mainly because, prior to this formula discovery, the only 'temporary' body art products on the market were henna and Mehndi. Both of these products worked quite well, but required laborious preparation of the skin and some careful maintenance afterwards. Besides, the henna and Mehndi products, in a majority of instances, lasted only a few days.

"In late 1997, Amunez International was founded in Australia, taking the name from history records that detailed an Egyptian Priestess of that name who, in the year 2000BC, instructed her inner counsel of servants to decorate her body with the elaborate symbols of the Gods...by way of painting tattoos.

"After six weeks of research and laboratory experiments, we created a formula that consisted of a chemical paint powder and a catalyst binding solution. When mixed in the correct proportions, and in the correct manner, a smooth black paint resulted. Artists around the world are now recognizing that our finger and body art product is the cheapest in the world on a "per tattoo" basis. 50grams will complete 250 large designs. These fake tattoos, once applied to the skin, look fantastic and realistic and last anywhere between 7days and 6 weeks, depending on skin type. No preparation of the skin is necessary, and there's no maintenance afterwards. Very simple to make up and apply. Anyone can do it!

³⁹⁴ Tarawa. "The professional black henna powder kit for beginning your own business you need 1 hours times! Tarawa.com." 1998. http://web.archive.org/web/19991127091025/http://blackhenna.net/explic_anglais.htm (December 15, 2012)

THE PROFESSIONAL BLACK HENNA POWDER KIT

FOR BEGINNING YOUR OWN BUSINESS YOU NEED 1 HOURS TIMES !

YOU SAW THEM ON BEACH IN BALI, IN EGYPT, SEHELLES, AUSTRALIA, ECT...

We OFFERS to YOU the SAME PRODUCT OF BLACK TEMPORARY TATTOOING WITHOUT ANY HARMFUL PRODUCT FOR the SKIN .

TARAWA WAS DEVELOPED A NEW PRODUCT REVOLUTIONNAIRE AS REGARDS BLACK TEMPORARY TATTOOING. THIS PRODUCT PRESENT IN THE FORM OF POWDER AND YOU MIXT SIMPLY WITH WATER MINERALE. ONCE TATTOOING DONE, THE CUSTOMER SHOULD NOT TOUCH THERE DURING 30 MINUTES.

After The 30 Minutes rinse WHITH WATER.le Black Tattooing Will hold On The Skin Of 7 DAYS(garanti) A 15 Days Following The Types Of Skin.

THIS PRODUCED DOES NOT CONTAIN ANY HARMFUL PRODUCT FOR THE SKIN.

³⁹⁵ Amazing Body Art Supply. 2000. "Rake In The Cash With One Of Our Amazing Business Kits"

<http://web.archive.org/web/20000920035909/http://www.amazingbodyart.com/BusKit.htm> (accessed December 15, 2012)

"Rake In The Cash With One Of Our Amazing Business Kits

"Start your own henna tattoo business or add henna tattoos to your existing business with the supplies in one of our quick-start amazing Henna Tattoo Business Kits.

"These Kits were created for the non-artist and henna novice. Within 30 minutes after receiving it you'll be making professional henna tattoos Guaranteed!

"The Demand For Henna Tattoos Remains Over-Whelming

"With One Of Our Business Kits You Can Cash In This Very Next Weekend!

"All you need are a few lawn chairs, a card table and crowd of people like at the Flea Market, the Beach, the local Mall, a County Fair, you name it. You'll be amazed at how fast the \$20.00 bills will start rolling in.

"Henna Tattoos Sells Itself So There Is No Selling Required.

"With our amazing Business Kits you'll learn what to charge, how to set up and how to instantly create over 600 henna tattoo designs without any artistic talent or drawing experience. A child can do it, it's that fast and easy.

"Get your Business Kit today and tomorrow you'll be making henna tattoos for \$10, \$20, up to \$60 each!

³⁹⁶ Black Henna Kits. "NEVER AVAILABLE TO THE PUBLIC BEFORE!!!!"

PROFESSIONAL QUALITY BLACK HENNA." Blackhennakits.com. October 4, 2003

<http://web.archive.org/web/20030604023657/http://blackhennakits.com/index.htm> (accessed January 28, 2013)

"NEVER AVAILABLE TO THE PUBLIC BEFORE!!!!"

"PROFESSIONAL QUALITY BLACK HENNA

"You can do it yourself! No drawing talent needed. We have made it simple. Our black henna kit can make anyone a "do it yourself" professional henna tattoo artist. For less than the cost of one armband or tribal, you can get enough professional black henna to do dozens of beautiful temporary tattoos.

"THE SECRET IS OUT

"We are the only source for professional grade black henna that produces realistic super black henna tattoos.

"Our black henna kit gives super jet black temporary tattoos that last up to three weeks and sometimes more.

"Can you color? Can you stay within the lines? Then you can do this. There's ABSOLUTELY NO DRAWING ABILITY NECESSARY.

"Get the product professionals henna artists use at fairs, festivals, beaches, concerts, and clubs.

You can learn to be a professional henna artist for fun and/or profit

“Until now the kits available in stores and on the Internet were not what the professionals used (None of those kits contained the super black, high grade black henna that henna artists use). You've never been able to get this product from beauty supply houses or even from your local retail stores. It's just not available. In the past, professional henna artists have kept their sources a secret. **BUT THE SECRET'S OUT!!!** Our professional grade black henna is now being made available to you. You've found the source for true black henna. If you want what the professional henna artists are using at at fairs, beaches, malls, nightclubs, carnivals, arts and craft shows, concerts - **THIS IS IT!!!** - We can teach you all you need to know to become a "professional" henna tattoo artist.

“Stop spending a fortune for black henna tattoos.
Don't pay the exorbitant prices that henna artists at malls and concerts are charging.
For less than twenty bucks you can do twenty to thirty black henna tattoos on yourself, your family, your friends or paying customers.

“Don't be fooled by artists and kits that offer regular henna which turns a reddish brown in color. These products are usually hard to make and even harder to apply. Plus, most don't give you a color that shows up well on the skin or lasts very long. Even the black and colored pastes available in stores and on the Internet don't work well. None of them are really super black and none of them last up to three weeks.
OUR BLACK HENNA LASTS UP TO THREE WEEKS!!!

“Can you color? Can you stay within the lines? Our tracing system is truly "foolproof"- Anyone can do it!!!! You don't have to know how to draw. If you know a child who can color, even they could do it. With our tracing system, it's super easy:
You've found the Only Company providing black henna that creates realistic jet black temporary tattoos.

“Now you can purchase professional black henna that's easy to mix(just add bottled water) and even easier to apply. Our powder makes a smooth flowing paste that's fun to work with. Our bottle and metal tips are exactly the same as real henna artists use. You get all the supplies you need. Anyone and everyone can master our system. If you want to consistently do professional temporary tattoos, our black henna kit will teach you how.

“Want to see what a tattoo would look like on your body? Try our super black henna. It's also great entertainment for parties, birthdays, sleepovers, picnics, vacations or just about anytime you want a super black, real looking tattoo. Fool your friends and family.

“Make them think you got a real tattoo.

“You Get:

Enough black henna to do dozens of tattoos

A tracing system that allows you to trace virtually any design and apply it to the skin, then fill with black henna design pages(armbands, tribals, Chinese symbols, belly buttons, anklets, flowers, suns, animals,etc.)
professional reusable bottle with metal tip just like the henna artists use detailed, easy to read and understand professional instructions,
plus - alcohol swabs, mixing cup and tool, gloves, cleaning tool, and more.

“Everything you need to start creating professional looking tattoos. Only \$19.95 + shipping and handling.

³⁹⁷ FDA. Inspections, Compliance, Enforcement, and Criminal Investigations. Black Henna Ink, Inc. 14-Aug-06.

<http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2006/ucm076032.htm> (accessed November 3,

2013)

Dear Mr. Wells:

This letter concerns your firm's sale and distribution of your product "Super Black Henna Powder" (also referred to on your Internet web site, www.blackhennausa.com, as "Black Henna Tattoo Powder"). According to statements on your website, your product is sold for use as a temporary tattoo; that is, it is intended to temporarily color the skin in a decorative fashion. This product meets the definition of a cosmetic in section 201(i) of the Act because it is intended to be applied to the human body for "cleansing, beautifying, promoting attractiveness, or altering the appearance." This product is in serious violation of the Federal Food, Drug, and Cosmetic Act (the Act). You can find the Act and regulations on the FDA website at www.fda.gov.

Your product is adulterated under section 601(e) of the Act [21 U.S.C. 361(e)], in that it is a cosmetic and it bears or contains a color additive that is unsafe within the meaning of section 721(a) of the Act [21 U.S.C. 379e]. Recently, FDA collected a sample of your product. FDA analysis found the product contains approximately 28% of the color additive p-phenylenediamine (PPD). A color additive is deemed to be unsafe within the meaning of section 721(a) unless there is in effect, and the additive and its use are in conformity with, a regulation listing the color additive for such use. There is no regulation listing the color additive p-phenylenediamine as safe for use in coloring the skin.

We request that you take prompt action to correct these violations. Failure to properly correct these violations may result in enforcement action without further notice. The Act provides for the seizure of illegal products and injunctions against the manufacturer and/or distributor of illegal products.

Please notify this office in writing within fifteen (15) working days of the receipt of this letter as to the specific steps you have taken to correct the stated violations, including an explanation of each step being taken to identify violations and make corrections to ensure that similar violations will not recur. Include any documentation necessary to show that correction has been achieved. If the corrective action cannot be completed within 15 working days, state the reason for the delay and the time frame within which the corrections will be implemented.

³⁹⁸ Amunez International. "Temporary Tattoo Paint Products Price List." Amunez.com. 1999

http://web.archive.org/web/20001205024800/http://www.amunez.com/Amunez_PriceList.htm (accessed December 15, 2012)

³⁹⁹ Black Henna. "BlackHenna.net Temporary tattoo paint in Super Black" blackhenna.net 1998.

<http://web.archive.org/web/20001004044543/http://blackhenna.net/cgi-local/shop.pl/page=acceuil.html> (accessed August 12, 2013)

LEAD FREE:

BLACK HENNA Tattoo Paint Powder has been tested by the Australian Chemistry Centre and was found to contain NO LEAD. (Certificate Reference 97E1240;3.1.1) It should be noted this product, like many others for skin application, may cause allergic reactions to some skin types. Please read the instructions and warnings enclosed with all BLACK HENNA products.

BLACK HENNA PAINT POWDER : henna 50%,ethyl cellulose,carmine,para phenylenediamine,titanium dioxide ,iron oxide.

⁴⁰⁰ Ho, S.G. Y., White, I. R., Ryecroft, R. J. G., MacFadden, J. P. 2004. "Allergic contact dermatitis from para-phenylenediamine in Bigen1 powder hair dye." *Contact Points. Contact Dermatitis*.51 Page 93 Blackwell Munksgaard.

"PPD is a potent allergen mainly encountered in hair dyes. Allergic skin reactions to temporary black henna tattoos, which often contain high concentrations of PPD, are increasingly reported. Cross-sensitization to Disperse Orange 3, among other textile dyes, is also commonly reported. Under European Union (EU) directives, PPD is allowed in hair dyes at a maximum concentration of 6% (i.e. 3% as used by the consumer when mixed with peroxide). Bigen powder hair dye is manufactured by a Japanese company (Hoyu) and distributed in the UK and Southeast Asia. Using high performance liquid chromatography, Brancaccio and colleagues demonstrated that PPD was present in Bigen #59 Oriental black hair colour at a concentration of 12.3%. Such concentrations would be considerably higher than those legally permitted in the EU and would increase the risk of sensitization to PPD were the substance not sufficiently diluted."

⁴⁰¹ Tyresteban. Coment, "Henna Tattoo: how to make henna tattoo." Mar 13, 2008. Accessed December 27, 2012. YouTube. <http://www.youtube.com/watch?v=qzZACEbXr64>

baardagaampje:

"how is it that your henna is black? is this whats called black henna or does it come because you put alcohol in it? pls tell me cuz my henna comes out greenish and leaves an orange mark on the skin. also i cant read ingredient[C] in the beginning :D pls tell meh."

tyresteban:

"it's black because i'm using BIGEN henna powder (hair dye)... it is a bit risky because it has an adverse effect if you are hypersensitive with some of its components ... anyways i heard about that stuff i heard its wrong and stuff but i dont really care."

⁴⁰² Bajaj, A. K., Dubey, K. S., Misra, K. A simple spectroscopic technique proposed for scanning the depigmenting potential of azo dyes. *Contact Points. Contact Dermatitis* 2004:5188 page 97 Blackwell Munksgaard.

"Black henna, touted to be a herbal product, in fact contains 16–25% of PPD w/w in powder form."

⁴⁰³ US Environmental Protection Agency. 2000. "'p-Phenylenediamine.' Hazard Summary-Created in April 1992; Revised in January 2000" *Technology Transfer Network Air Toxics Web Site*. <http://www.epa.gov/ttnatw01/hlthef/phenylen.html> (accessed December 15, 2012)

⁴⁰⁴ PJ. "Does anyone know anything about "Henna Stone?" posted to *The Henna Page discussion Forum*, January 11, 2000, accessed December 15, 2012,

<http://web.archive.org/web/20010515143352/http://www.hennapage.com/henna/discuss/messages/14177.html>

"Someone asked me about something they saw while on vacation in Turkey. They said that they saw several local artists mixing henna powder with finely ground stone which they refer to as "Henna stone" It is very dark and very soft and stains as soon as it comes into contact with the skin. From what they said, the substance is very expensive to buy. They found a market stall in Fetiye where the owner had a small quantity for sale costing (?) sterling for 100 grams. Does anyone here know what this substance could be?"

⁴⁰⁵ Evvie. "Beauty secrets from around the world," posted to *The Long Hair Community Discussion Board*.

February 25, 2012, accessed December 15, 2012. <http://forums.longhaircommunity.com/archive/index.php/t-88960.html>

"The thing you use in Egypt to make henna black is something they call simply "the black stone" (الحجر الأسود read "alHagar aleswed"). According to my mum, you crush it, pour on it hot water and mix, then add to it your henna powder with some lemon juice or brewed black tea. You wait approximately one hour for henna to get ready, cover your hair generously with the mix and leave for around four hours. The stone is a mystery and no one could really explain what it is. They call it "الشبنه" (read: elshabbah)."

⁴⁰⁶ Özkaya E, Yazganoglu KD, Arda A, Topkarci Z, Erçag E. 2013. The "henna stone" myth. *Indian Journal of Dermatology and Venereal Leprology* 79:254-6

⁴⁰⁷ Helmy, A. "Arabic Henna Body Art and Tattoo for Wedding Night." *Stylish Eve*. 2012.

<http://www.stylishve.com/arabic-henna-body-art-and-tattoo-for-wedding-night/> (accessed December 15, 2012)

"But if you want to use black henna you can add black stone dye after being dissolved in hot water to the henna. This will give you a dark black color.

⁴⁰⁸ Özkaya E, Yazganoglu KD, Arda A, Topkarci Z, Erçag E. 2013. The "henna stone" myth. *Indian Journal of Dermatology and Venereal Leprology* 79:254-6

⁴⁰⁹ Colourstart. April 172012. Don't do a BLACK henna tattoo. <http://www.youtube.com/watch?v=IgyrIsP82lk> (accessed December 26, 2012)

Valletta in Malta is no different to any other city or sea front with a tourism trade. Black Henna peddlars are seen around the world poisoning children with their illegal cocktail of henna spiked with huge amounts of PPD - although, as you can see in this video, they will deny this of course. Don't let your kids have a black henna tattoo. They'll be scared for life.

⁴¹⁰ Plunkett, B. "Black Henna Curse Exposed." Uploaded to Colourstart April 17, 2012. YouTube. Accessed December 26, 2012. <http://www.youtube.com/watch?v=15C6cPBf5Bs>

"Black Henna. Here's a street pedlar I filmed in whilst in Valletta. This child is being exposed to huge amounts of PPD and will almost certainly be sensitised for life. Don't let your kids have a black henna tattoo. The guy thinks he's doing nothing wrong."

⁴¹¹ Ball Beauty Best Original Beauty supply in Los Angeles "Avigal Henna." *Ballbeauty.com* 2012.

<http://www.ballbeauty.com/hair-care/avigal-henna/> (accessed December 26, 2012)

"... but the true leader of what became known as the "Henna Revolution" was and still is AVIGAL HENNA. New shrubs of the Lawsonia plant were discovered and developed, which gave life to different colors and shade gradations. AVIGAL HENNA took these shrubs and created a whole new look."

⁴¹² Cartwright-Jones. C. "Khidab." Hennapage.com. 2005.

<http://www.hennapage.com/henna/encyclopedia/khidab/injuries.html> (accessed December 26, 2012)

⁴¹³ elly. Comment, "Help with black henna temporary tattoo!?" Posted to *Open Question, Yahoo! Answers*.

December 29, 2012. <http://answers.yahoo.com/question/index?qid=20121229105801AAzptHv> (accessed December 29, 2012)

"Help with black henna temporary tattoo!?"

"So i just got home from Vegas, and I had a black henna tattoo done. I just now researched it and realized that it couldve contained ppd. I havent had an allergic reaction because I only had it done almost 2 days ago. I didnt ask the vendor about the ingredients because I thought it was harmless because it's just a temporary tattoo.

"first he wiped the area with some type of deodorant, then he applied the black paste. I removed the paste a couple hours later and the tattoo was really really light. when i woke up, it was still kind of light. and when i woke up the next day, the tattoo was finally black. would that mean it doesnt contain ppd since it took so long to darken>?"

"Lava Lava

Almost certainly jagua, which can take days to fully appear and is more grey-black, not jet black like PPD will be almost immediately. Not henna, but almost never dangerous, it's a temporary stain that's plant based, but contains man made ingredients and is a manufactured substance.

Bad on the artist for lying about the product he put on your skin, but at least it's not likely PPD. Google jagua paste, most common risks with jagua are mild dermatitis or sun sensitivity for those with sensitive skin."

⁴¹⁴ Sammi. Body Art 101 Part Two, Jagua. *BellyHops.com*. <http://bellyhops.com/performance-perfect/body-art-101-part-2-jagua/> (accessed December 26, 2012)

"It goes on very much like henna too, in a bottle, applied directly to the skin. The nice thing about jagua is that it pretty much always comes ready made. Because it's the juice of a plant and not a powder like Mehndi, it's not messy, but it's fairly easy and straight forward.

"One major drawback is that jagua is expensive. So is henna, but you don't have to buy ready-to-use henna and getting a big ol' bag of powder, freezing it and using it when you need it makes henna very cost effective. The same can't be said of jagua. The cheapest jagua I've been able to find is about \$30 for 30 ml. That's fairly expensive. So go light on it, maybe try a few henna tattoos before going crazy with the jagua – unless you've got money to burn – because yeah. It's expensive stuff. You can find jagua on eBay and Amazon.com, just like with henna."

⁴¹⁵ TheBodyArtShop.com. 2007. Jagua Tattoo Gel Easy Tubes

<http://www.thebodyartshop.com/section.php?xSec=101> (accessed December 26, 2012)

THE EASY SQUEEZY TUBES are here! Create Amazing Jagua Tattoos With No Mess & No Fuss. Easy Tubes are the ideal one coat Jagua Tattoo solution, ideal for getting started and perfect for the mobile body artist! Simply cut or pierce the nozzle and away you go... The soft plastic tube ensures easy product flow and great control, if you can write with a pen, you can use the Easy Tube range. Jagua Tattoo Gel Easy Tube - 10ml Our Price: £10.00

⁴¹⁶ Henna Sol. Comment, "The good and bad experiences using Jagua?" posted to *HennaTribe* November 24, 2010, accessed December 26, 2012

<http://hennatribe.org/viewtopic.php?t=11437&sid=7285819f627ab87c2edac702dd664921>

"when i first found jagua, it was wonderful, a dream come true. but over time, fairly rapidly actually (within a half dozen small applications), i became sensitized and had serious allergic rashes from it's use. the rash would normally appear 1-3 days after application, and would last approximately 2 weeks. the rash consisted of small blistery bumps that were red and excessively itchy, to the point of my worrying i may scar myself with scratching even with constant cortisone cream applications to bring the itching to a nearly tolerable level.

"due to my allergic reactions, another vendor worked with me to see if the allergy was an additive or the fruit itself, as we both wanted to know what was up and i still really wanted to be able to use the product. she sent me several samples from different batches and a untouched fruit. i rashed from all of them, even the fruit that i just cut open and put the moisture from it's insides on my skin with a paint brush.

⁴¹⁷ Redlick, F., DeKoven, G. N 2007. Allergic contact dermatitis to paraphenyldiamine in hair dye after sensitization from black henna tattoos: a report of 6 cases. *Canadian Medical Association*.

<http://www.cmaj.ca/content/176/4/445.full2007> (accessed December 26, 2012)

"The cases: Over a 2-year period, 6 women have come to our dermatology clinic with an allergic contact dermatitis to paraphenyldiamine (PPD) from hair dye after being previously sensitized to PPD from black henna tattoos. These patients, 14–38 years and previously healthy, all reported similar stories of developing erythema, edema and pruritus in some combination of their scalp, hairline, eyelids or cheeks, 1–2 days after having their hair dyed. All had previously had at least 1 black henna tattoo; 4 of them also reported having a previous local allergic reaction to a black henna tattoo.

"When patch testing was performed to identify causative allergens, all 6 patients were found to have strong allergic reactions to PPD. Moreover, their skin reacted to other para-dyes, which can cross-react with PPD: specifically, paratoluenediamine, aminophenol and 2-nitro-4-phenylenediamine.

"Black henna tattoos are frequently advertised as "temporary and harmless," and thus have become a popular and fashionable form of temporary body art for young children and teenagers, especially among travellers and holiday resort guests.

⁴¹⁸ Lind, M.2005. Dermatitis in Hairdressers as a Problem in Chemical Control. *Annals of Occupational Hygiene*.

<http://annhyg.oxfordjournals.org/content/49/6/457.full#xref-ref-1-1> (accessed December 26, 2012)

⁴¹⁹ Coscia, M., 2013. "Competition and Success in the Meme Pool: a Case Study on Quickmeme.com" *Association for the Advancement of Artificial Intelligence*

⁴²⁰ Taylor, S., Zook, M., and Graham, M. 2012. "The Technology of Religion: Mapping Religious Cyberscapes." *Professional Geographer* 64, no. 4: 602-617. *Academic Search Complete*, EBSCOhost (accessed January 2, 2013).

⁴²¹ Coscia, M., 2013. "Competition and Success in the Meme Pool: a Case Study on Quickmeme.com" *Association for the Advancement of Artificial Intelligence*

⁴²² Blackmore, S. 2008. Susan Blackmore: Memes and "temes" Filmed Feb 2008 • Posted Jun 2008 • TED2008

http://www.ted.com/talks/susan_blackmore_on_memes_and_temes.html (accessed January 4, 2013)

⁴²³ Blute, M. 2005. Memetics and evolutionary social science. *Journal of Memetics - Evolutionary Models of Information Transmission*. 6

⁴²⁴ Schifman, L., Thelwal, M. 2009. Assessing global diffusion with Web memetics: The spread and evolution of a popular joke. *Journal of the American Society for Information Science and Technology* Volume 60, Issue 12, pages 2567–2576

⁴²⁵ Zipes, Jack. 2008. "What Makes a Repulsive Frog So Appealing: Memetics and Fairy Tales." *Journal of Folklore Research* 45, no. 2: 109-143. *Academic Search Complete*, EBSCOhost (accessed December 27, 2012).

⁴²⁶ Paull, John. 2009. "Meme Maps: A Tool for Configuring Memes in Time and Space." *European Journal of Scientific Research* 31, no. 1: 11-18. *Academic Search Complete*, EBSCOhost (accessed December 27, 2012).

⁴²⁷ Misturelli, F., and Heffernan, C. 2009. "Never the Twain Shall Meet: A Memetic Analysis of Poverty Perceptions." *Development Policy Review* 27, no. 2: 167-183. *Academic Search Complete*, EBSCOhost (accessed December 27, 2012).

⁴²⁸ Marsden, Paul. 2001. "Is Suicide Contagious? A Case Study in Applied Memetics." *Journal of Memetics - Evolutionary Models Of Information Transmission* 5, no. 1: N.Pag. *Academic Search Complete*, EBSCOhost (accessed December 27, 2012).

⁴²⁹ Health, C., Bell, C., and Sternberg, E. 2001. "Emotional Selection in Memes: The Case of Urban Legends." *Journal of Personality & Social Psychology* 81, no. 6: 1028-1041. *Academic Search Complete*, EBSCOhost (accessed December 27, 2012).

⁴³⁰ Schmidt, WP., Aunger, R., Coombes, Y., Maina, PM., Matiko, CN., Biran, A., and Curtis, V. 2009. "Determinants of handwashing practices in Kenya: the role of media exposure, poverty and infrastructure." *Tropical Medicine & International Health* 14, no. 12: 1534-1541. *Academic Search Complete*, EBSCOhost (accessed December 27, 2012).

⁴³¹ Coscia, M., 2013. "Competition and Success in the Meme Pool: a Case Study on Quickmeme.com" *Association for the Advancement of Artificial Intelligence*

⁴³² Floating Sheep. 2012. "FAQ." *FloatingSheep.org*. <http://www.floatingsheep.org/p/faq.html> (accessed January 2, 2013)

“There is an increasing amount of data on the Internet that is geo-coded to a particular spot on the earth. This has huge implications for how we interact with our surroundings and each other.

“This site is dedicated to mapping and analyzing user generated geocoded data. The results provide one glimpse of what internet users (in the aggregate) think about particular places. Where are people posting placemarks about swine flu? Which places are considered to be "fun" by the collective intelligence of the Internet users?

“We view this new cloud of user generated data as cyberscape which provides an additional layer for human interaction. In addition to our five senses we can now access cyberscapes of information (see our visualization below) as a digital sixth sense. We can look around a physical corner and see what online information has been tied to that location. Since a large amount of this information is created by users we are no longer limited to the stale monotony (or security) of business directories or phonebooks. People can document their memories, feelings, biases and reactions to places and share them with the world.

“But as these cyberscapes become crowded, the process of sorting the worthwhile from the mundane becomes ever more valuable. Thus, code (such as the Google search algorithm) enters as an actor which decides how to rank and order the cyberscapes we use. Some things are emphasized and others moved to the periphery. And through this process new places – digiplaces – are created in which we become aware of our physicality and the information about it in a simultaneous and mutually reinforcing way.

“How can I make my own maps like these?

“The short answer is that you can't. Or at least you can't unless you are willing to devote a lot of time and effort (as we have) to assemble the data. We're always looking for suggestions so please let us know what you'd like to see.

“Who are you?

The founders of this website are Dr. Matthew Zook (an Associate Professor at the University of Kentucky, USA) and Dr. Mark Graham (a Research Fellow at the Oxford Internet Institute, UK). We've been researching and publishing on this particular topic for more than four years.

⁴³³ Zook, M. A., and Graham, M. 2007. "Mapping DigiPlace: geocoded Internet data and the representation of place." *Environment & Planning B: Planning & Design* 34, no. 3: 466-482. *Academic Search Complete*, EBSCOhost (accessed January 2, 2013).

⁴³⁴ Schifman, L., Thelwal, M. 2009. Assessing global diffusion with Web memetics: The spread and evolution of a popular joke. *Journal of the American Society for Information Science and Technology* Volume 60, Issue 12, pages 2567–2576

⁴³⁵ Blackmore, S. 2000. *The Meme Machine*. Oxford: Oxford University Press, USA, page 43.

⁴³⁶ Schifman, L., Thelwal, M. 2009. “Assessing global diffusion with Web memetics: The spread and evolution of a popular joke.” *Journal of the American Society for Information Science and Technology* Volume 60, Issue 12, pages 2567–2576

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- ⁴³⁷ Taylor, S., Zook, M., and Graham, M. 2012. "The Technology of Religion: Mapping Religious Cyberscapes." *Professional Geographer* 64, no. 4: 602-617. *Academic Search Complete*, EBSCOhost (accessed January 2, 2013).
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- ⁴⁴⁰ Schifman, L., Thelwal, M. 2009. Assessing global diffusion with Web memetics: The spread and evolution of a popular joke. *Journal of the American Society for Information Science and Technology* Volume 60, Issue 12, pages 2567–2576
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- ⁴⁴⁵ Kellerman, A. 2012. *The Internet on Earth: A Geography of Information*. Wiley. Page 3
- ⁴⁴⁶ Pimple, K. 1996. "The Meme-ing of Folklore." *Journal of Folklore Research* 33, no. 3: 236-240. *Academic Search Complete*, EBSCOhost (accessed January 1, 2013).
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- ⁴⁴⁸ Aunger. R. Reprint edition.2010. *The Electric Meme: A New Theory of How We Think*. Free Press age 31
- ⁴⁴⁹ Blute, M. 2005. Memetics and evolutionary social science. *Journal of Memetics - Evolutionary Models of Information Transmission*, 6.
- ⁴⁵⁰ Centola, D. 2010. "The Spread of Behavior in an Online Social Network Experiment." *Science* 329, no. 5996: 1194-1197. *Academic Search Complete*, EBSCOhost (accessed January 1, 2013).

⁴⁵¹ Roche, MM. (2010). Historical research and archival sources. In I. Hay (Ed.) *Qualitative Research Methods in Human Geography*. (pp. 173 - 190). New York, NY, United States: Oxford University Press

⁴⁵² Maira, S. 2000 Henna and Hip Hop: The Politics of Cultural Production and the Work of Cultural Studies The Johns Hopkins University Press. *Journal of Asian American Studies* 3.3 (2000) 329-369

⁴⁵³ Internet Archive Wayback Machine. "Universal Access to all knowledge." Archive.org.

<http://archive.org/web/web.php> (accessed January 6, 2013)

"Browse through over 150 billion web pages archived from 1996 to a few months ago. To start surfing the Wayback, type in the web address of a site or page where you would like to start, and press enter. Then select from the archived dates available. The resulting pages point to other archived pages at as close a date as possible. Keyword searching is not currently supported."

⁴⁵⁴ Facebook. "Welcome to Facebook." facebook.com. <https://www.facebook.com/> (accessed January 6, 2013)

⁴⁵⁵ Forde. R. "Christmas Cookies, Stockings and Black Henna, Part 3." Posted to *Storytelling, exploring, and radical hospitality*. December 29, 2011. <http://rachelforde.blogspot.com/2011/12/christmas-cookies-stockings-and-black-29.html> (accessed January 6, 2013)

Christmas Cookies, Stockings and Black Henna, Part 3

"Day 3 was a bit different from the other days. We didn't visit anyone at home; instead, we all met late in the morning outside Suuqa Karmel, the largest of the 3 Somali malls in South Minneapolis. I got there first; even though it was December 18, it was almost 50 degrees outside, so I didn't mind standing out in the sun for a few minutes, reading my Kindle.

"Suuqa Karmel was an old Midwest Machinery warehouse that was bought in 1997 by the...ahem...controversial Basim Sabri, a Palestinian immigrant who renovated the building along the lines of an indoor, Middle-Eastern marketplace. He divided the building into stalls, where local Somalis--mostly women--opened their small, start-up businesses selling everything from prayer rugs and hijabs to perfume, bed sheets and tea sets. There is a mosque on the upper level, and a branch of Franklin Bank, one of the local banks that caters to the Somali population by offering Shariah-compatible services.

"We wandered around there for an hour and a half or so. Me and Sarah, another IV volunteer, stopped in at the Islamic Bookstore for some Somali grammar guides and dictionaries, and eventually, most of the group made their way over to stall #110, where I found five of us girls in line for henna. I hung back for a while; the tattoos were huge and only \$5 apiece, a price that screams "hair dye in a tube." I'd seen pictures online of where people got henna tattoos using "black henna," which is not actual henna at all. These unlucky souls found out too late that they were allergic to the chemicals used in it, and erupted in painful rashes that left permanent (though lovely) paisley-shaped scars all over their feet and hands, but gosh darnit, the girl was so good at what she did that I was mesmerized.

I went for it. She had me sign my name in a notebook and date it (for liability reasons, I guess), picked up her tube, and started work on my right hand. She was a genius. She had no pattern to work off of, but each one of us who got the tattoos got a unique design, and I'm pretty sure she was making it up as she went along.

"You're not allergic, are you?" she asked.

I looked at my hand. She was already halfway done; it seemed a little superfluous to ask. Then again, if I knew I was allergic and let her get this far, I'd deserve whatever flaming eruption I got. When she finished, a short five minutes later, I was free to go, and spent the next twenty minutes with my fingers spread out, letting the black paste air dry.

⁴⁵⁶ Top Cat. "Henna beats fingernails any day," posted to blog January 19, 2009. *We Bought a Sailboat*.

<http://www.urbancats.com/?p=335> (accessed January 6, 2013)

A girls night out and what fun it was. First we ate sambousas and drank mango and guava juice. I didn't know you can get sambousas made from fish. Then we found the best henna person in the city to make designs for us. One of the aspects of Egyptian culture I enjoyed the most was the community of women. Sitting together in the henna shop at the Somali mall in Minneapolis felt a bit like a community of women. I'm a little worried that I may be allergic to black henna — my wrists and hands are itchy. That's bad. But check out the cool designs. If you look closely you can see my red hands. I thought it was from the heater but now I'm not sure.

⁴⁵⁷ Yuuki. "Boracay Horror: Henna Tattoo," posted to *The Food, The Places, and the Bad Trips*. April 22, 2012.

<http://www.foodplacebadtrips.com/boracay-horror-henna-tattoo/> (accessed January 6, 2013)

"When in Boracay, you must try everything available and we just did that. One of the most available activity (can be seen in every nook and corner) is henna tattooing or if you want a permanent one.

"But we just went for the henna tattoo. We went out quite early one of the days we were at Bora and looked for the open henna tattoo booth (at 7 am). We bargained at the price and got 100-150 pesos depending on the design. We are quite satisfied with the final outcome.

"After a few days it became itchy with small rashes, but I just shrug it off. I had my henna tattoo on my whole right arm and since I'm medyo balbon so it's not noticeable.

"But lo after a week and it started to fade, the itchiness increased and so with the rashes. And the rashes followed the design of my henna tattoo. It looked hideous now.

"I asked my nephew if his henna tattoo was gone and if he experienced the same. He had the same reaction and his rashes looked like a dragon.

"I told this to another cousin, luckily she didn't go for the henna tattoo because she was looking for the brown one. We had the black one and she said it was actually banned in Dubai. Why wasn't I aware of that?

"Now I want to know if you have the same experience as we have or our skin is just sensitive?

"For now I can say, NO TO HENNA TATTOO IN BORACAY!

⁴⁵⁸ Yuuki. "Boracay Horror: Henna Tattoo," posted to *The Food, The Places, and the Bad Trips* April 22, 2012.

<http://www.foodplacebadtrips.com/boracay-horror-henna-tattoo/> (accessed January 6, 2013)

⁴⁵⁹ Doryll Medroso. *Henna*. November 7, 2009. Doryll Medroso's photostream.

<http://www.flickr.com/photos/doryllmedroso/4101774237/> (accessed January 7, 2013)

⁴⁶⁰ SuzyQuzy. *Last Day in Borocay*. Borocay or Bust. SuzyQuzy's photostream album. Uploaded to Flickr

November 4 2009, <http://www.flickr.com/photos/falkflicks/4099983566/in/photostream/> (accessed January 7, 2013)

last day in boracay

after a day of fun in the sun we get a massage and then we get a henna tattoo and see the sun set. it's our last night in boracay

the pen marks wash off but the henna stays on for a long time; as of today i'm so over my hand henna and am so ready for it to be all gone - LOL. what was completely normal in Boracay is completely abnormal here in conservative korea

⁴⁶¹ SuzyQuzy. *Last Day in Borocay*. November 4 2009, Borocay or Bust. SuzyQuzy's Photostream album.

<http://www.flickr.com/photos/falkflicks/4099228295/in/photostream/> (accessed January 7, 2013)

⁴⁶² Joane. "Boracay Henna Tattoo. Happy Birthday Joel." posted to *TripAdvisor Slideshow*.

[http://tripwow.tripadvisor.com/slideshow-photo/boracay-henna-tattoo-manila-](http://tripwow.tripadvisor.com/slideshow-photo/boracay-henna-tattoo-manila-philippines.html?sid=13386872&fid=upload_12949839423-tpfil02aw-14492)

[philippines.html?sid=13386872&fid=upload_12949839423-tpfil02aw-14492](http://tripwow.tripadvisor.com/slideshow-photo/boracay-henna-tattoo-manila-philippines.html?sid=13386872&fid=upload_12949839423-tpfil02aw-14492) (accessed January 6, 2013).

⁴⁶³ Borgman, C. 2007. *Scholarship in the Digital Age: Information, Infrastructure, and the Internet*. The MIT Press.

Pages 3 - 4

⁴⁶⁴ *ibid*, page 5

⁴⁶⁵ Deleon, N. 2011. Report: Number Of Malware-Infected Web Sites Has Doubled In Past Year. TechCrunch.

<http://techcrunch.com/2011/03/08/report-number-of-malware-infected-web-sites-has-doubled-in-past-year/>

"A new Dasient report says that the number of Web sites infected with malware has doubled in the past year. That means we're now just short of 1.2 million Web sites out there infected with malware. Wonderful.

"Big deal, you say. Some 1.2 million Web sites out of the entirety of the Web can't be so bad, right? Well, that means that in about three months of Web surfing the average person now has a 95 percent chance of running into malware.

⁴⁶⁶ Schifman, L., Thelwal, M. 2009. Assessing global diffusion with Web memetics: The spread and evolution of a popular joke. *Journal of the American Society for Information Science and Technology*

Volume 60, Issue 12, page 2569.

⁴⁶⁷ Sanjib K. Deka, Narendra Lahkar, (2010) "Performance evaluation and comparison of the five most used search engines in retrieving web resources", *Online Information Review*, Vol. 34 Iss: 5, pp.757 - 771

⁴⁶⁸ "Beware of Henna Tattoo Allergy," posted to *Anything Under the Sun*.

<http://ingbieku.blogspot.com/2011/02/beware-of-henna-allergy.html> (accessed January 11, 2013)

“It was the summer of 2009 when we went to Boracay (a well known beach in the Philippines). There were a lot of activities for summer and the kids decided to get a henna tattoo. Since we knew that they are temporary, we did let them have one. One decided to have a tattoo with a 3 stars and a sun design. It actually represents the Philippine flag.

“The two of them had a tattoo with the same artist. I washed the tattoo 1 hour after it was done as per the instruction given. After washing it.. it was noticeable that one got reddish and warm to touch. He also complained that it started to feel itchy. I knew that there was something wrong so I immediately went to a pharmacy to ask if there was something I can apply. They gave me a topical cream (with steroids) for the inflammation.

“After 1 week the wounds started showing with fluid discharge. With the look of it, I was crying without him seeing because I was terrified. He met his dermatologist as soon as the wounds started to appear.

⁴⁶⁹ Puerto Galera Board: A Slice of Affordable Heaven. “Get a Henna Tattoo in Puerto Galera.”

PuertoGaleraBoard.com. <http://www.puertogaleraboard.com/henna-tattoo.php> (accessed January 11, 2013)

Get a Henna Tattoo in Puerto Galera

“Henna Tattoo is a favorite activity among backpackers to Puerto Galera. For those of you who are not too familiar, Henna Tattoo is the painless variation of skin art. With hip drawings on the skin minus the shooting pain of needle pierced on, Henna Tattoo became a top favorite among tourists.

“If you want your own Henna Tattoo, you will not have a difficult time having them while you are on vacation at Puerto Galera. That is because the long strait of beach is coupled with Henna Tattoo stops where skin artists are just waiting to make that mark. Upon entry, you will be asked to choose your own design. If there is a line, which usually is the case during peak season, you will have to wait for your turn before your chosen design is inked to your skin.

“When your turn finally comes, the artist will draw the design on the your preferred body part to have your tattoo on. That drawing will be his guide as he applies henna, a special ink that gets absorbed to the skin and rinses off after two weeks or so. When the application is done, you usually have to wait for a few minutes to dry off the ink and your are ready to go. That is, of course, after you have paid for your Henna Tattoo.

“Having a Henna Tattoo does not only hurts less but also costs less. The price starts at 100, depending on how simple or elaborate your chosen design is. Then again, that amount may vary according to the season. If you visit Puerto Galera during the peak season, prices naturally goes high, including for Henna Tattoos. As it becomes in demand, tattoo artists decide to take advantage and earn more than they usually do. During the lean season, when a smaller crowd piles up to get Henna Tattoos, you can get yours at a bargain price.

“Henna Tattoo shops are found all around in Puerto Galera islands. If you want the best value for your money, you could compare the offers on a number of shops and decide on the one you think is giving you the most for less.

“And oh, take extra precaution on allergies. If you think your skin is too delicate and sensitive, opt for other forms of skin art, not Henna Tattoo. The ink could irritate your skin, leaving a mark of an ugly Puerto Galera experience. Avoid having that to make the most of your precious vacation money!

⁴⁷⁰ Schifman, L., Thelwal, M. 2009. Assessing global diffusion with Web memetics: The spread and evolution of a popular joke. *Journal of the American Society for Information Science and Technology*

Volume 60, Issue 12, pages 2567–2576

⁴⁷¹ Blackmore, S. 2000. *The Meme Machine*. Oxford: Oxford University Press, USA, page 163

⁴⁷² Schifman, L., Thelwal, M. 2009. Assessing global diffusion with Web memetics: The spread and evolution of a popular joke. *Journal of the American Society for Information Science and Technology*

Volume 60, Issue 12, pages 2567–2576

⁴⁷³ Paull, John. 2009. "Meme Maps: A Tool for Configuring Memes in Time and Space." *European Journal Of Scientific Research* 31, no. 1: 11-18. *Academic Search Complete*, EBSCOhost (accessed December 27, 2012).

⁴⁷⁴ Google Trends. "Google Trends." Google.com. <http://www.google.com/trends/> (accessed March 5, 2013)

Google trends displays dynamic charts of search terms used over a horizontal time axis dating from 2004 and vertical axis of search volume, as well as a global map of search origins, and similar searches.

⁴⁷⁵ Google Trends. "Interest over time: black henna." Google.com.

<http://www.google.com/trends/explore#q=black%20henna&cmpt=q> (accessed March 5, 2013)

This chart shows annual peaks in searches for Black Henna in July and August of each year since 2005, and the origin of searches being in USA, Canada, England, Australia, and India.

⁴⁷⁶ Google Trends. "Interest over time: Vacation" Google.com. <http://www.google.com/trends/explore#q=vacation> (accessed March 5, 2013)

This chart shows two peaks per year, one in January and the other in June or July.

⁴⁷⁷ Google Trends. "Interest over time: henna tattoo." Google.com.

<http://www.google.com/trends/explore#q=henna%20tattoo&cmpt=q> accessed March 19, 2013.

⁴⁷⁸ Google Trends. "Interest over time: Mehndi." Google.com <http://www.google.com/trends/explore#q=mehndi> (accessed March 19, 2013)

This chart shows queries originating in India and Pakistan.

⁴⁷⁹ Google Trends. "Interest over time: Henna + Eid." Google.com.

<http://www.google.com/trends/explore#q=Eid%20%2B%20henna&cmpt=q> (accessed March 19, 2013).

⁴⁸⁰ Pinkerton, J. 1811. *A General collection of the Best and More Interesting Voyages and Travels*, 17 vols. London, vol 9, pp 48-9)

⁴⁸¹ Alloula, Malek. 1987. *The Colonial Harem*. Manchester University Press

⁴⁸² Michele Coscia, 2013, *Competition and Success in the Meme Pool: a Case Study on Quickmeme.com*,

International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

... most studies of internet memes share a common starting point: they observe the usage of memes by users who are interacting in a network. The main focus is on the interactions between the users and the influence of the topology of the network itself in the meme spreading process. In other words, these studies are not inquiring about the characteristics and the dynamics of memes per se, but the characteristics of the environment in which memes live, i.e. the social network that lies underneath social media. A meme is studied only in terms of its reaction to this environment. For this reason, we say that these works are studying the ecology of Internet memes.

Their interactions can take the form of competition and collaboration, where memes compete for the attention of the users and, in doing so, they can also cooperate resulting in higher success ratios.

⁴⁸³ BALI HOTEL BARGAIN FINDER; PRIVATE VILLAS LTD. "The Bali Travel Forum BALI travel FORUM News & Views from the 'Ultimate Island'." Balitravelforum.com

<http://www.balitravelforum.com/archives/199708/index.html> (accessed August 26, 2013)

⁴⁸⁴ Trip Advisor Forum. <http://www.tripadvisor.com/> tripadvisor.com (accessed August 26, 2013)

The world's largest travel site
Plan and have your perfect trip with TripAdvisor, the world's largest travel site. Browse over 100 million candid reviews, opinions, and photos of hotels, restaurants, attractions, and more - all by travelers like you. You'll also find low airfares, free travel guides, worldwide vacation rental listings, popular forums with advice about virtually every destination, and more. No wonder so many travelers make TripAdvisor their first stop before every trip.

⁴⁸⁵ Thomas Cook Customer Community. "Community-powered support for Thomas Cook." Thomascook.com. Get Satisfaction Inc. 2013 <http://customer-community.thomascook.com/thomascook> (accessed August 26, 2013)

⁴⁸⁶ Carnival Cruise Lines. "Welcome to Funville. Forums." Carnival.com. 2013

<http://www.carnival.com/Funville/forums/> (accessed August 26, 2013)

⁴⁸⁷ Michele Coscia, 2013, *Competition and Success in the Meme Pool: a Case Study on Quickmeme.com*,

International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

⁴⁸⁸ Gould, P. *The Slow Plague. A Geography of the AIDS Pandemic*. Blackwell. Oxford UK. 1993.

⁴⁸⁹ Zelinsky, W. 2004. "Globalization Reconsidered: The Historical Geography of Modern Western Male Attire." *Journal of Cultural Geography* Fall/Winter 22(1):83-134

⁴⁹⁰ Griffin, M. M., Robinson, D. H. 2005. "Does Spatial or Visual Information in Maps Facilitate Text Recall? Reconsidering the Conjoint Retention Hypothesis." *Educational Technology Research and Development*. Volume 53. No.1.

⁴⁹¹ Llewelyn-Davies, M., Ambrosino, M, Wallace, M. 1981 "Some Women of Marrakech." *Odyssey* Granada Television. Public Broadcasting Associates. Newton, Mass.

⁴⁹² Judy Farah, "Martin Scorsese Movie Stirring Christian Controversy" *The Associated Press*. April 22, 1988. LexisNexis Academic. (accessed April 16, 2013).

⁴⁹³ Amartie Layrea "Hollywood Hits the Road to Morocco for Wedding of Film Star's Son," *Mail on Sunday* (London) August 28, 1994.

WEARING the flowing robes of a Middle Eastern tribesman, Richard Harris wound his way through the steaming heat of the kasbah in Tangier.

Stumbling ahead of him was a bull ready for ritual slaughter - the signal for the start of a lavish feast.

It was a scene worthy of the Biblical epics for which the veteran actor and reformed hell-raiser - once famed for his portrayal of King Arthur in the film *Camelot* - is these days much sought after by Hollywood.

Harris and his socialite ex-wife Elizabeth were in Morocco for the spectacular, £30,000, four-day marriage of their 27-year-old son Jamie to Moroccan beauty Soumaya Akaaboune, 25.

East and West collided in a riot of festivities with Los Angeles film types in designer suits and RayBans mingling with the rich and influential of Tangier.

The marriage was conducted with timeless religious and social rituals.

On Wednesday, Harris and Jamie offered up a specially-fattened bull as a wedding gift to Soumaya's wealthy Muslim businessman father Abdeslam.

"They wanted a wedding fit for an Arab princess and were prepared to spare no expense.

The revelries were underpinned by bridal traditions spanning centuries. On Friday, Soumaya was attended to by two maids of honour. She was bathed, dressed in a kaftan of the finest silk, draped in jewels and her hands and feet were stained with henna drawn in geometric designs.

A silk sash - symbolising fertility - was loosely tied around her wrists and she was veiled.

As the wedding feast was being laid out yesterday, Jamie was readied for his marriage by two manservants. His fingers were dipped in henna and his eyes lined with charcoal. Then he was gently shaved and dressed in embroidered Moroccan robes.

⁴⁹⁴ Marcia Kretzmer, "SHE'S GOT THE STOMACH FOR IT." *The Jerusalem Post*. June 23, 1989 LexisNexis Academic. (accessed April 16, 2013).

The pre-wedding henna party at one of Jerusalem's Oriental restaurants had almost reached its height - the point at which the great tray, filled with henna paste and decorated with sugared almonds and

multicoloured satin ribbons, would be passed from hand to hand and the dark amber paste daubed on the hands of the guests and the betrothed pair, an ancient sign of good fortune and fertility

⁴⁹⁵ Caroline Mallan, "New Delhi pavilion 'hands out' souvenirs." *The Toronto Star*. June 22, 1991. LexisNexis Academic. (accessed April 9, 2013).

⁴⁹⁶ Slyomovics, S. and Dargan, A., 1990 "Wedding song: Henna art among Pakistani women in New York City." Queens Council on the Arts

⁴⁹⁷ Assem Abdel-Mohsen, "Women of Yemen and their Seductive Art: Painted Bodies," *The Philadelphia Inquirer*, October 16, 1994. LexisNexis Academic. (accessed April 9, 2013)

WOMEN OF YEMEN AND THEIR SEDUCTIVE ART: PAINTED BODIES

A Yemeni man lowering his glance as a veiled woman walks by is not necessarily being polite. He may be trying to glimpse her heel and see if it is painted with "naqsh" to arouse his interest.

Naqsh - abstract paintings of flowers or plants on women's bodies - can be "sexually seductive," said Mariam, a university graduate and homemaker who practices the centuries-old tradition. She asked that her real name not be used.

Though covered in thick veils and long, black gowns, rich and middle-class women in this Muslim country are often aware of Western makeup and the latest fashions, but sport them only in private.

Naqsh is something that can be glimpsed publicly - though discreetly. In other parts of the Arab world, henna, a small Oriental shrub that produces a reddish-orange pigment, is the most common body dye. It usually is used to paint a scattering of dots on the skin. Naqsh is a black vegetable dye produced from a plant; it is, aficionados say, more versatile than henna.

A naqsh design can start on the toes and continue in a dazzling, zig-zag way around the leg to the upper thigh. From the hand, it may spread all the way to the breast.

Naqsh, done by women who practice the art as a profession, can be painted on any part of the body.

"A real artist of naqsh can make of a woman a moving portrait," said Zohra, a Yemeni woman who, like Mariam, asked that her real name not be used.

Naqsh has its own rituals, explained Mariam. Most girls are not allowed to have naqsh before marriage, she said.

One common way to have naqsh is to arrange an all-woman qat-chewing session to which relatives and friends are invited. Qat, a bitter-tasting narcotic leaf that requires hours of chewing to produce its mild stimulant effect, is a common habit among men and women alike in Yemen. As the women chew qat and smoke the hubble-bubble, women naqsh artists paint their bodies.

A woman who senses that her husband's interest in her may be waning may have new naqsh every week or two.

The effect of the new naqsh never fails," said Zorah. "It is not necessarily the same part every time. There are moody husbands who keep changing all the time. And a wife will have naqsh at whichever part of her body her husband desires."

⁴⁹⁸ Virginia Leeming, "Wedded to Tradition: Artistry and a sense of high occasion are evident in the wedding gowns of different cultures: BRIDES: There's beauty in tradition," *The Vancouver Sun* (British Columbia). February 20, 1996.

On the first day of marriage celebrations when the groom's family hosts, a Muslim Sudanese bride of the upper and middle classes will wear a white towp, similar in style to the Indian saree. Skilled artisans will embroider or bead the borders of the towp which can be of silk, rayon or cotton. Under the towp, the bride wears a short, sleeveless dress.

"On the second day of the three-day celebration, the bride's family extends its hospitality to guests and she wears a second towp of another color. During the second and third day the bride dances a traditional dance for guests.

Women in many cultures, including the Sudanese, decorate their hands and feet with the henna designs, a process that requires more than five days to achieve the black pattern on the skin. Much pure gold jewelry is worn, signifying the family's wealth. Should the family not be wealthy, gold-colored metal jewelry is worn.

⁴⁹⁹ Boddy, J., 1989, "Wombs and Alien Spirits, Women, Men, and the Zar Cult in Northern Sudan" University of Wisconsin Press.

⁵⁰⁰ Abdulla, Kamil A; Davidson, Neil McD, "A woman who collapsed after painting her soles." *The Lancet*. September 7, 1996. LexisNexis Academic. Web. Date Accessed: 2013/04/09.

In December, 1993, a 40-year-old Saudi Arabian woman who had been well during the day, suddenly became breathless in the evening, and was taken to a local clinic. She had to have an endotracheal tube inserted in the ambulance during transfer to hospital, where she was still severely hypoxic despite high-flow oxygen. There were fine crepitations bilaterally up to the mid-zones, and profuse, clear, frothy sputum requiring repeated suction, but no evidence of cardiac failure, angio-oedema, or bronchospasm. A chest radiograph showed patchy bilateral basal consolidation without cardiomegaly. She was admitted to intensive care, ventilated, and treated for pulmonary oedema of unknown cause. All routine investigations were normal. Her chest radiograph became normal within 24 hours, and her endotracheal tube was removed within 48 hours.

Questioning then revealed that after dinner on the evening of admission she had applied henna to her feet and had begun to apply it to her left palm and it was then that she had suddenly become breathless. She had often used henna before, but had never experienced any similar episodes. On this occasion, she used a henna hair-dye mixture prepared by a neighbour, who told her that it was a special preparation, but it proved impossible to obtain exact details of the constituents. She recovered fully and went home 2 days later.

Henna has been used for centuries by women throughout Africa and Asia to beautify their hair and hands. It is applied to hands and feet using an icing bag or syringe to trace intricate patterns. Sometimes a second dye, para-phenylenediamine (pPD, "para" in the trade), is added to henna to speed up dyeing, n 1 and to improve pattern definition. In some countries, such as the Sudan, pPD is readily available in local markets, but ingestion produces such severe toxic effects n 2 (angio-oedema, respiratory distress, rhabdomyolysis, n 3 and renal failure n 4) that it is commonly used in attempted suicide. pPD is banned in some countries, and its concentration in hair dyes is controlled in others, including Saudi Arabia. Although there is no proof that pPD caused this patient's near-fatal pulmonary oedema, the circumstantial evidence is strong, including the refusal of the neighbour to give full details of the henna mixture, and the acute presentation with one hand painted and the other not. The patient had no abrasions on her skin, but hair-dye ingredients can penetrate intact skin and cause systemic toxicity. n 5 Previous accounts ascribe respiratory distress from pPD to

angio-oedema, n 2 and asthma, n 5 but acute pulmonary oedema is probably equally important. Although such reactions are well known where pPD is used freely, they are normally unknown where pPD is used after controls are sometimes frustrated by illicit importation. Many expatriates in Saudi Arabia will have previously used pPD at home, and some probably bring it in from time to time (as powder or as black stony lumps).

⁵⁰¹ Hashim, S., Hamza, Y., Yahia, B., Khogali, F., and Sulieman, G., 1992 " Poisoning from Henna Dye and Para-phenylenediamine Mixtures in Children in Khartoum" *Annals of Tropical Pediatrics* 12, 3 - 6

⁵⁰² Hooff, G. P., van Huizen, N. A., Meesters, R. J. W., Zijlstra, E. E., Abdelraheem, M., et al. (2011) Analytical Investigations of Toxic p-Phenylenediamine (PPD) Levels in Clinical Urine Samples with Special Focus on MALDI-MS/MS. *PLoS ONE* 6(8): e22191. doi:10.1371/journal.pone.0022191

⁵⁰³ Monique P. Yazigi, "A Henna Party (Don't Rinse)," *The New York Times*, August 4, 1996.

There was a party at an art gallery in the East Village on Thursday, but no one was looking at art. Well, not on the walls, anyway.

"And it wasn't one of those boring hands-in-your-pockets events because that's where the art was. On hands. Painted in henna.

In places like India and Morocco, Hindu, Muslim and Jewish women pass on through generations the secrets of Mehndi, the ancient art of painting symbols and designs that signify everything from warding off evil spirits to married love.

It arrived at the Bridges & Bodell Art gallery at 13 East Seventh Street thanks to the efforts of Loretta Roome, a pop singer from Manhattan, and Rani Patel, a native of Kanpur, India.

All night -- the opening night of a monthlong gig -- the two women sat on the red floor behind a low brass table, painting tattoos with the dye extracted from the henna plant on any hand set before them.

Dozens of people, some with pierced noses, eyebrows and cheeks, some carrying Coach pocketbooks, were filing in. Everyone wanted one -- or two or three -- tattoos. This night, the tattoos were free. Wednesdays through Sundays in August, the price will be from \$5 for a small hand design up to \$250 for an entire back. The Mehndi painters are sharing their profits with the gallery.

As partyers drank complimentary iced tea and vodka punch in the garden, they walked around flapping their palms in the air, comparing their newly painted designs (from Gaelic symbols to hearts and flowers that crawled all the way up the arm). It was a bonding experience.

⁵⁰⁴ Dulcie Leimbach , "For Children," *The New York Time*, August 2, 1996. LexisNexis Academic. (accessed April 8, 2013).

Henna Painting
Bridges and Bodell
13 East Seventh Street
East Village
(212) 477-1820
Recommended ages: 3 and up
Through Aug. 31

The stalwart Berber women of Morocco still swirl henna-based tattoos on themselves to fend off nasty spirits, or djnun, which apparently live in dark places and come out at night to bring misfortune. So if you're a nervous type, a henna tattoo might be just the thing, even in New York.

In Hindu, Muslim and Jewish cultures in places like India, Pakistan, Tunisia, Algeria and the Sudan, brides have their hands and feet painted two days before the wedding ceremony, as if they were putting on their wedding dresses early. "If I walked down the street there with my hands and feet painted, everyone would assume I just got married," said Loretta Roome, a henna painter. The art is also known as mehndi painting and she is working on a book with another mehndi painter, Rani Patel, on the subject.

Both painters will be demonstrating the ancient art of henna painting on anyone who willingly drops into the gallery and presents, say, palms, feet or belly button. The demonstration supplements the gallery's current exhibition, "The Mehndi Project," which depicts contemporary henna painting through 40 photographs.

Things haven't changed much since mehndi's inception thousands of years ago. The depths of the henna color, for example, are just as significant as the drawings: if the color is dark red, the love between a husband and wife should last a very long time. But children, who don't need to worry about such things, might have their wrists painted to resemble a bracelet of flowers. Ms. Roome and Ms. Patel will also paint stars, hearts or butterflies, maybe your entire back. The glory of mehndi painting is that it rubs off in a few weeks (although Ms. Roome says that traces of henna were found on the fingernails of Egyptian mummies).

The fees for tattoos range from \$5 for something simple to \$200 for a complicated design. The painting is done during gallery hours: Wednesdays through Sundays, 1 to 9 P.M. Mint tea is served to enhance the mood and deter those bad spirits.

August 2, 1996, Friday, Late Edition - Final

⁵⁰⁵ Liesl Schillinger, "Postcard from New York." *The Independent*. (London) September 1, 1996. LexisNexis

Academic. (accessed April 9, 2013).

MEHDI AND THE TRAMPS: So far, New Yorkers have eagerly taken every new body art fad to their bosoms, backs, calves, arms, and inner thighs. They have tattooed, scarified, pierced, and even branded themselves (branding costs from \$ 5-\$ 20 per "strike") and now they are having themselves "mehdied", following the example of Demi Moore. Since it's the last fortnight of summer and everyone but German tourists and diehard tennis fans have left town (and offices are as empty as a TWA booking office in Cairo) no better moment could exist to experiment with dyeing red-brown wallpapy patterns on to one's hands and feet with henna - a pastime practised for centuries in unbusy cultures (mostly the Indian subcontinent and North Africa) and known as mehdi. It doesn't hurt, it costs about \$ 50, and it fades away after a few weeks. Mehdi hit New York on 1 August when a gallery called Bridges & Bodell opened a show, with a complement of mehdi artists to perform their craft on visitors. Interest was so large that the artists have since been retained indefinitely and a mehdi salon is in the works. Mehdi's rise is making tattoo artists quake in their spurred boots, body piercers look for day jobs, and increasing numbers of Manhattanites resemble "National Geographic" photo spreads of Berber tribesmen. At the Cappuccino & Tattoo the mood is glum. No longer are tattoo artists working 24-hour stretches; it's a buyer's market again. (I overheard a guy saying he could get the "same tattoo for half the price in Jersey" as he stormed off.) Men and women who have etched every concealable part of their bodies with tattoos just don't have any more room left, so they delight in the chance to adorn the last pristine body surface: the face. Lance Rubin, a tattoo artist, sitting astride a bike outside the mehdi gallery, exults: "I'm gonna get an all-encompassing face thing, because you can't get tattoos on your face if you ever want to get work again. This way, if by some wacked out chance I'd want to be an investment banker, at least I'd be an option." Other practitioners - their skins smarting from tats, scars, hoers and welts that have lost their lustre - turn to mehdi for decoration without suffering. And, of course, mehdi also draws in the yuppies, sissies and hippies who wanted a painted-on anklet of twiny, William Morris-y leaves, or an upper-arm cuff of runic figures, but didn't want to bleed for

it, whether because of Aids or because of a distaste for the biker stigma of tattoos. Mehdi may be news to a trendy New Yorkers, but in Little India, the Bangladeshi cumin and chutney emporia are ready. They needed only to move their boxes of \$ 2.50 Mumtaz Henna powder nearer to the check-out. At the Spice House, two blocks away from the gallery, Mahomet explained: "In our culture, the women do it, for the wedding. The peacock design is for love. The mango is for great riches. The mother does it to her daughter. And when she wears it, she is beautiful." He beams. His friend Syed adds with great derision: "For Hindus it is for the ladies, but in Islam the men do it, too."

⁵⁰⁶ Barbara De Witt, "Party Lines; Bloomingdale's Bops with Starry Guests and Tattooed Bellies," *PARTY LINES; BLOOMINGDALE'S BOPS WITH STARRY GUESTS AND TATTOOED BELLIES.* " *The Daily News of Los Angeles*. March 16, 1997. LexisNexis Academic. (accessed April 9, 2013).

After all the check-passing fanfare, the store rocked to the beat of bands such as the Cherry Poppin' Daddies, whose tuxedos featured leopard-print lapels. Those who weren't on the dance floor got their fortunes told and their biceps and bellies tattooed with henna. "It's really cool," bubbled teen Kimberly Winthrop of Sherman Oaks, who displayed a hand-painted garland around her arm, which she said wears off in about a month.

⁵⁰⁷ A. Scott Walton and Moni Basu, "Tattoos That Don't Stick; Ancient art with designs that fade makes its way from East to West." *The Atlanta Journal-Constitution*. August 11, 1997. LexisNexis Academic. (accessed April 9, 2013).

The Artist formerly known as Prince has intricate stains on his hands. No Doubt's lead singer, Gwen Stefani, wears lacelike henna for her music video. Supermodel Naomi Campbell struts the runways with adorned shoulders. Other celebrities, such as Neve Campbell, Demi Moore, Halle Berry and Laurence Fishburne, are also flashing the look of mehndi.

Mehndi (pronounced me-HEN-dee) involves staining the body with designs that can be as detailed as the filigreed marble sanctum of the Taj Mahal or as intricate as delicate lace. Done with a paste made from dried henna leaves, it originated in India and North Africa, where the skin is embellished to commemorate weddings, holidays and ritual gatherings.

Mehndi, the latest, hippest trend in skin decoration, has gone mainstream.

"It's great," said Rubina Rupani, a 28-year-old native of Karachi, Pakistan, who does mehndi applications at her Ruby Beauty Center in Decatur. "Before, Americans used to think it was a disease. Now they know."

Used in a noncultural context, mehndi is fashion at its most superficial. Unlike tattoos or body piercings, the markings fade away in a matter of weeks. The application and drying can take several hours and cost as much as \$ 75 per hand. If you're not willing to invest that amount of time or money, the Bombay Bazaar Store, an Indian grocery in Decatur, sells henna packages for as little as \$ 2. Youth-oriented stores such as The Junkman's Daughter in Little Five Points sell mehndi kits that include henna, a mixing bottle and stencil for \$ 14.

⁵⁰⁸ Chrissy Iley, "Why mehndi is trendy." *The Sunday Times*. (London). May 18, 1997. LexisNexis Academic. (accessed April 9, 2013).

I have always rather fancied having a tattoo - it's borderline dangerous, a permanent testament to something or somebody. So the idea of a henna tattoo, which lasts only a month rather than forever, was even more appealing. I had seen one on Naomi Campbell's back; I had seen a bracelet version on Gwen Stefani, the smudgy-lipped blonde lead singer of the band No Doubt; and I had seen them on both Demi Moore and Liv

Tyler. The Oscar-winner Mira Sorvino has had her hands decorated, as have Prince and his wife, Mayte. It looks exotic. I wanted my own henna tattoo.

These adornments have an official Indian name: mehndi. In India, brides lie back and think of nothing while their bodies, hands and feet are painted for their wedding day. Mehndi is also practised in Morocco, where it is thought to ward off evil. And, fitting in nicely with the new-age craze for ancient cultural symbolism, it is now the latest thing in Hollywood cool.

For my second tattoo, I wanted to make more of a statement. I wanted my poodle on my leg. I took photographs of Poodle for Allington so she could simplify him into a stencil in time for my return visit.

"You shouldn't tattoo people who are sick or who can never make up their minds," says Allington. "And you can't tattoo people who are under 18. So mehndi is a good compromise. When an adult is getting tattooed in the other room, the kid can have one of these." She calls in her 16-year-old daughter who reveals angel wings drawn across her back.

"Mehndi is also ideal for someone who wants to try out three or four different designs before making a lifelong commitment to one," she says. "But now it is trendy in its own right. It looks really good in nightclubs."

"As a traditionalist I would rather stick with the one henna colour," says Allington. "But there are ways of mixing the paste with other colour dyes so you can get black or purple."

⁵⁰⁹ Michele Coscia, 2013, "*Competition and Success in the Meme Pool: a Case Study on Quickmeme.com.*"

International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

⁵¹⁰ Christy DeAraujo, "Ancient Art Leaves a Temporary Mark," *Providence Journal-Bulletin*. (Rhode Island) August 14, 1997. LexisNexis Academic. (accessed April 9, 2013).

⁵¹¹ Gayle Robinson, "Body decoration for wimps," *Florida Times-Union*. (Jacksonville, FL) August 14, 1997. LexisNexis Academic. (accessed April 9, 2013).

⁵¹² "Mehndi makes mark on Manhattan NEW YORK STYLE / Appearance-conscious New Yorkers have embraced the latest tattoo craze, which will likely die a quick death come the fall.." *The Globe and Mail* (Canada). August 23, 1997 Saturday : 1017 words. LexisNexis Academic. Web. Date Accessed: 2013/04/08.

⁵¹³ Navaid. Comment, " Re: Black Henna Paste real Cool !!!" posted to *The Henna Page Discussion Forum*, February 29, 2000,

<http://web.archive.org/web/20010517000306/http://www.hennapage.com/henna/discuss/messages/15595.html>

(accessed August 29, 2013)

This is to inform in general that in this 'Henna world' Navaid & Co is the only one company who is manufacturing completely safe to apply on skin this much controversial "Black Henna Premixed Paste". So whoever is interested can buy from me with confidence, or just try my free samples of 1tube each colour. My prices are as under:

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In all my above mentioned henna pastes, there is no warning! no disclaim! . Whatever I am writing here is in full confidence of peerless quality products for skin designing...

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⁵¹⁴ Elaine Gale, "made to fade; Too timid to get a tattoo? You might consider the ancient art of mehndi: decoration of the body with henna coloring that wears off after several weeks." *Star Tribune* (Minneapolis, MN) August 27, 1997. LexisNexis Academic. (accessed April 9, 2013).

⁵¹⁵ Dantram Nguyen, "Tattoos Don't Have to Hurt," *University Wire*, Daily Californian. September 02, 1997. LexisNexis Academic. (accessed April 9, 2013).

One UC Berkeley student who declined to give her name said she was disappointed with the result of her henna tattoo.

"It was like this bright, bright orange," she says. "It was really ugly."

Some artists also say that dark-skinned people have complained about the resulting colors.

I had two African American women who really didn't like their tattoos, because they thought it looked almost like scarification or branding," J.P. says.

Since henna tattoos currently are only available in one shade, there isn't a lot of room for multi-dimensionality. This may soon change with the advent of new bright colors like blue, red and green. These new shades will not be available in the Bay Area until they gain FDA approval.

⁵¹⁶ Heather Graulich, "Mehndi Making Mark as Trial Tattoo," *Palm Beach Post*. (Florida) September 14, 1997. LexisNexis Academic. (accessed April 9, 2013).

...(the) owner of Outrageous Tattoos in West Palm Beach, plans to begin offering mehndi later this month and charge \$ 50 an hour for the service, although most designs take 15 minutes or less. She is importing henna supplies from England, including a part-synthetic black henna dye that provides a darker design than traditional henna.

"(Mehndi) gives people another option," Hawkins said. "With permanent tattoos, you have to be over 18. Also, people can decide if they like it."

In other words, mehndi can work like a trial tattoo - a way to test drive body art before taking the permanent plunge."

⁵¹⁷ "Setona, Queen of Henna, Editorial Review" *Reidel Music* <http://www.amazon.com/Setona-Queen->

[Henna/dp/B000055WVS](#) (accessed August 24, 2013)

Having served customers like Prince (The-artist-formerly-known-as-Prince) and other celebrities who made special trips to Cairo/Egypt in order to be decorated by her one can say that without any doubt Setona is the best-known and most internationally marketed henna artist today. That has not always been that easy as the first years after she arrived together with her husband Ahmed - a former teacher now acting as a lute player in her band - from the Sudanese capital Khartoum in Cairo in the late 80's she had to struggle hard. But her many artistic talents helped her to step from the status being just another stranger from a different country to international acknowledgment.

More than a decade later there is good reason to credit Setona with the revival of traditional henna painting in Egypt. "What distinguishes Setona is her ability to market herself as a wedding consultant for 'Sudanese retrostyle' ceremonies, where she starts by applying the henna designs on the bride and teaching the women Sudanese dances, and ends with singing traditional songs during the ceremony itself. In other words, Setona draws on her knowledge of an entire set of traditions associated with body care and body painting in the context of Sudanese wedding rites" (Salah M. Hassan, *The art of African fashion*, 1998).

But besides all her first profession Setona is still as a singer both on traditional weddings as well as on international stages. Having started as a singer accompanied by only a frame drum whose skin was often henna decorated Setona nowadays fronts a kind of a fourteen member big band, consisting of keyboard, guitar, bass, percussion, brass section and a backing choir. "People need me for both, the wedding ceremonies and the music," she says. Lately, Setona has taken her talents to the stage. She has performed with the avant-garde Egyptian theatrical group El Tali'aa, both in Cairo and abroad. And she has played with great success in some of the most successful Egyptian movies during the recent years like "An Upper Egyptian In The American University" where she played herself and sang "Henna", a song also contained in this album. "Hello America" starring Adel Emam, one of the leading Egyptian actors, gave her the chance of acting as a black femme fatale living in New York who is chasing her husband, an Egyptian immigrant seeking for legal status.

⁵¹⁸ Azza Khattab, "Henna Designs, Emerging Markets Datafile" *EGYPT TODAY*, October 14, 1997. LexisNexis Academic. (accessed April 19, 2013).

When Adam is not creating henna designs, she is working on her international singing career. She has participated in singing festivals in Germany and France and has also released an album entitled African Crossroads. "When I came to Egypt, it was mainly to become a singer, a well-known singer," says Adam. Somewhere along the way, however, it seems that Adam has become famous for her henna designs instead.

When Sudanese henna expert Setouna Adam picked up the phone, the artist formerly known as Prince was on the line. "I really admire the drawing you made for me," he told her from the United States. Adam is no ordinary artist. She creates her exotic geometric drawings on flesh rather than canvas using a special dye made from the leaves of the Sudanese henna plant to decorate hands, ankles, necks, backs and even waists. The beautiful drawings, which fade after a couple of weeks, have become so popular with Egyptian women that brides will often get their bridesmaids together for a "henna night" before the wedding, when each woman gets a henna design.

"Mention henna to aficionados of the traditional Sudanese decorative art and the name Setouna will probably arise.

Since she came to Egypt eight years ago, she has become known as the queen of henna and henna nights. "I can proudly say that I made henna a trend in Egypt," Adam says."

⁵¹⁹ Setona, "Sitonashow." posted to *Setona* Facebook Photostream, uploaded April 17, 2013.

<https://www.facebook.com/photo.php?fbid=354255124676567&set=pb.211891022246312.-2207520000.1377454417.&type=3&theater> accessed August 24, 2013

⁵²⁰ Azza Khattab, "Henna Designs," Emerging Markets Datafile *EGYPT TODAY*, October 14, 1997 , LexisNexis Academic. Web. Date Accessed: 2013/04/09.

Adam first gained her fame at the American University in Cairo when she performed at International Day with a Sudanese group demonstrating their country's marriage traditions. Adam was the henna woman in the show. "In Sudan, the bride doesn't have to have a dowry, but she's got to be painted with henna. The wedding itself can be put off if the bride isn't adorned with henna," says Adam.

Since then, Adam has been hired by brides, universities, hotels and embassies. She has participated in African Day at the American Embassy, fashion shows at the Marriott Hotel and Semiramis Intercontinental hotels, and other events at the British Council and City University. Local and international celebrities are among her clients, many of whom travel to Egypt to visit her. The artist formerly known as Prince and his wife came especially to have her drawings applied. Sherihan, a famous Egyptian actress who used to travel to the Gulf to be painted with henna, is now a client of Adam's. Others send for Adam from around the world.

⁵²¹ *ibid.*

"Once the drawing is complete, it is left for 30 minutes or an hour to dry, after which it is peeled off. Immediately after peeling, clients wash the area with soap and water and dry well. It's as simple as that! Black henna is preferable to red. It allows for clearer drawing and stays on longer, taking from two to three weeks to vanish from the skin. "Some girls' skin is very sensitive and can be irritated for a while," says Adam, who advises girls not to have their skin hair removed just before visiting her.

⁵²² Tara Solomon, "Body art of ancient cultures enjoying a trendy rebirth in the U.S." *Herald-Journal* Spartanburg, South Carolina, October 29, 1997

<http://news.google.com/newspapers?id=tVMgAAAIAIAJ&sjid=pM8EAAAIAIAJ&pg=3051.6500362&dq=black+henna&hl=en> (accessed June 22, 2013)

Walter is a Miami-based entertainment promotions specialist who recently underwent five days of black henna treatments with Weir to cover his arms and hands with leopard spots and free-form handiwork.

"The black henna looks just like the real thing," says Weir, referring to its stark tattoo-like mark in contrast to the more subtle reddish henna from India or the chocolate formula from Pakistan.

"It's great for men, who usually want something darker, as well as for Latins and darker-skinned people. Black also lasts longer; you're going to have that on your skin for two months."

Weir charges \$25 for a simple hand drawing up to \$100 for an intricate necklace; black henna, the rarest shade, costs about 50% more.

Henna tattoos are parent-friendly," confirms Mehndi artist Julie Becker, also known as the Little Henna Girl.

Becker's prices range from \$5 for a ring design on a finger to \$30 to \$150 for a full hand, front and back. I'll basically do whatever someone wants," says Becker, who says the response from the Indian community has been positive.

"I'm sure they're not thrilled that there are henna lions on people's backs, but they're very gracious about it."

⁵²³ Heidi Munan, "Jamming in the rainforest." *New Straits Times* (Malaysia). July 8, 2002. LexisNexis Academic. (accessed April 4, 2013)..

Festival regulars haven't forgotten the 2001 event, when performers from West Africa, South America, the Philippines, Madagascar, Scotland, Canada, Australia, Egypt, Vietnam, Peninsular Malaysia, Columbia, Sudan and Mongolia made the rainforest on the flank of Mt Santubong ring with their tunes! Setona, the "Queen of Henna" from Sudan, didn't just sing – perched on the platform of a wedding platform, she beat a mean tambourine with the resident Malay musicians at the Sarawak Cultural Village, danced a smooth joget, and demonstrated the ancient art of henna painting! Les Freres Coulibaly riveted the audience with its drumming and dressing; when the time came for the Orang Ulu longdance, everybody joined in!

⁵²⁴ Tina Sorenson, "Make your mark." *Illawarra Mercury* (Australia), November 18, 1997 LexisNexis Academic. (accessed April 17, 2013).

⁵²⁵ Meghan Ward, "For a less painful, less risky body art, many are trying mehndi, the all-natural skin decoration," *University Wire*, February 25, 1998.

Corinne Weber, second-year world arts and cultures major at UCLA, got a mehndi armband at the Farmers Market in Westwood last quarter. Weber agrees that the hardest part is waiting for the paste to dry. It was on for about a day. I couldn't put my arm to my body. That part was kind of annoying, Weber says.

Other mehndi artists offer color and black mehndi. Color tattoos last only three days, but are convenient for those who want to test out what a real tattoo would look like and for those like Leseuer, whose motivation is shock value.

Ravenna Bennet, a third-year student at UCLA, is a mehndi artist at Thirteen BC, a piercing/mehndi parlor on Melrose Avenue, where black mehndi is especially popular. Right now, the black is more popular because it shows up better and looks more like a real tattoo, Bennett says.

Parlors that practice black mehndi use natural henna mixed with a chemical, or a chemical by itself. Bennett confirms that at Thirteen BC, black mehndi is performed using an Asian chemical dye called kattam.

Marsha Knight, web site designer and part-time mehndi artist at Angel Hair Salon on 3rd Street in Los Angeles warns her customers about black mehndi. "One girl who came here her friend had it done and she

said it turned green and splotchy. It also dyes the hair on your arms. One other guy had it done and it scarred his skin. It looked like a chemical burn.”

Bennett agrees that kattam does sometimes cause skin irritations. However, she is aware of only three customers that have had allergic reactions to black mehndi.

“The people who did have a reaction had the black henna done and when it faded, came back and had it done again in the same spot,” Bennett adds. She advises that anyone concerned about having a reaction do a test patch 48 hours prior to receiving a mehndi design.

⁵²⁶ David Nankervis, “Wear-off tats the new craze,” *Sunday Mail* (SA), March 15, 1998 LexisNexis Academic. (accessed April 10, 2013).

These tattoos are created by the application of dye made from the henna plant, which is found in India and the Middle East. The dye, either black or red, is painted on, there is no breaking of the skin and therefore no pain. It only stains the outer layers of the skin, creating a temporary tattoo.

Freehand tattoo artist Adrian, who works exclusively with henna dye, said people were going crazy over the temporary tats. “Apart from my regular clientele, I get a huge amount of work at nightclubs, where everyone seems to want a henna tatt,” Adrian, the owner of Bodart Henna Tats, said.

I average eight clients a day, but over Christmas and New Year I was twice as busy.” Adrian said the popularity of the tattoos was based on the fact they were not tied to the usual tattoo stereotype. “These tats are more creative, more trendy than the traditional tattoos associated with bikies and sailors,” he said.

Since they are only temporary, lasting between two to four weeks, and cheaper than normal tats, people can satisfy their curiosity about tattoos without having to wear one for life.

⁵²⁷ Vevlyn L. Wright, “Trendy Mehndi; Temporary henna 'tattoos' from India becoming all the rage.” *The Patriot Ledger* (Quincy, MA). March 23, 1998. LexisNexis Academic. (accessed April 10, 2013).

Not surprisingly, stars deserve credit for transmitting mehndi to the masses. Demi Moore, Liv Tyler, Naomi Campbell, Mira Sorvino and the former Prince -- one of the few men -- have all donned a henna tattoo. And bets are on that it will be the biggest absolute accessory since crucifixes and Y-necklaces now that Madonna has appeared everywhere from “The Rosie O'Donnell Show” to MTV with mehndi on her hands and wrists.

Last year's art house film, “Kama Sutra: A Tale of Love,” may have also played matchmaker for mehndi and American women. Many female moviegoers left theaters enamored with the mehndi worn by the two heroines in the sensual love story set in 16th-century India. One scene even depicts a bride's prenuptial mehndi ceremony.

Movie buffs may recall that several female characters appeared to be decorated with Sudanese black henna in the decade-old Martin Scorsese film, “The Last Temptation of Christ.”

⁵²⁸ Susan Scott, “Mehndi art form takes off: Body designs fade with time.” *Calgary Herald* (Alberta, Canada). February 24, 1998. LexisNexis Academic. (accessed April 14, 2013).

“Ibrahim mixes her paste with tea water, lemon, clove and eucalyptus oils. Others add okra juice or roasted coffee.

"Different people use different things. It's top secret; no one likes to tell you," says Aradhana Parmar who teaches development studies at the University of Calgary.

Sometimes it's so black, she says, chemicals must have been added to the mixture."

⁵²⁹ Lesley K. Roberts, "Business Spotlight; TEMPORARY TATTOOS; BUSINESS: Shop offers alternative to "traditional" tattoos," *Orange County Register* (California). August 6, 1998.

⁵³⁰ Maira, S., 2000. "Henna and Hip Hop: The Politics of Cultural Production and the Work of Cultural Studies" *Journal of Asian American Studies* Volume 3, Number 3, pp. 329-369 | 10.1353/jaas.2000.0038

⁵³¹ George Rush, Joanna Molloy, Marcus Baram, and K.C. Baker, "Madonna's Bad Karma Stirs Hindu Hullabaloo," *Daily News*. (New York). September 15, 1998. LexisNexis Academic. (accessed April 11, 2013).

⁵³² Marcelle S. Fischler, "Body Art With Tattoos' Chic, But Without the Permanence." *The New York Times*. August 23, 1998. LexisNexis Academic. (accessed April 10, 2013).

"The Indian community in New York knows me as 'the white Indian,' " she said. "It's so weird. It's very unusual that a person like myself channels this work. I just feel comfortable with it. ... I feel like I've done it before, somewhere else."

Jill Rosenfeld settled into an antique French chair in the salon's window and stretched a leg across Ms. Weir's knee while Ms. Weir adorned her ankle with a fringed cuff for \$55, then drew a matching arm bracelet for \$65.

Next in the chair, Vicki Schwartz, a 32-year-old mother of two from Woodmere dressed in workout clothes, was telling Ms. Weir she had a small flower tattooed on her shoulder blade five years earlier.

"I just needed something," she said. "After you have a baby you start to feel like an old married lady." With her 2-year-old daughter Gabrielle leaning across her knee, Mrs. Schwartz watched as Ms. Weir drew a scrolling bracelet with flowers around her ankle for \$105."

⁵³³ Chris Morris, "MTV Reaches Out To Audience Via Research: Future Divined In New 'Trendsetters Study'," *Billboard*. 1998. LexisNexis Academic. (accessed April 10, 2013).

Todd Cunningham, VP of research and planning for MTV said,

"Trendsetters are not the typical kinds of consumers. They're not sitting at home by the phone waiting to be asked to come to a focus group, to be paid \$ 40. They're out doing things--setting trends. So they're going to be hanging out at skateboard parks, outside cafes, outside nightclubs, outside certain boutiques and stores, whether it be East SoHo [in New York] or part of the L.A. River where kids skateboard.

"What [staffers at Youth Intelligence] do is, they recruit them face to face, and the recruiters are people who look just like them. They have dreads, they have piercings, they have henna [tattoos] all over their bodies, they're wearing all the clothes, they have the look. They integrate into the whole scheme of what's happening. It's not like they walk up with a clipboard and the reading glasses and say, 'Hey, I wanna ask you these questions.' They get in the groove with them."

⁵³⁴ Megan Miers, "A work of art Ancient practice of Mehendi gaining in popularity." *Tulsa World*. (Oklahoma) August 06, 1998. LexisNexis Academic. (accessed April 10, 2013).

"The only unsafe henna is a kind called black henna which is used in Pakistan and some African countries," he said. "That kind has dangerous additives in it and can make the person sick."

⁵³⁵ Michelle Osborne, "Treasure Amidst Tacky T-Shirts," *The Toronto Star*. September 2, 1998. LexisNexis Academic. (accessed April 11, 2013).

Black Henna Body Art, on the south side of the Arts, Crafts, Hobbies Building, has been drawing designs on arms, hands, feet and backs of hundreds of people over the past 12 days.

"Adolescents are getting them to freak out their parents, tricking them into believing it's real," said Constance Wulf, an artist working at the booth.

"And what's funny is parents are getting them to freak out their kids by getting a tattoo before their kids do." The cost depends on the design and its size, ranging from about \$10 to \$40, and the tattoo lasts from one to six weeks

"People think of tattoos as a drivin'-a-Harley kind of thing," Wulf said. "It's a way for people to rebel without the commitment."

⁵³⁶ "New fashion that's worth dyeing for 'I wouldn't want a real one' 'They can't wait to see this at work!'" *Gloucestershire Echo*. September 28, 1998. LexisNexis Academic. (accessed April 11, 2013).

The latest way to decorate boring bare skin is with a henna tattoo. Sarah Maybank asked two Echo readers to take the plunge in the name of fashion

Student Rachel Viner, 19, is from Longhope. She used to work at credit firm Farming and Finance in Barnwood.

I've seen henna tattoos in various magazines and on people walking around town but I've never actually had one.

I don't want a proper tattoo but it'll be interesting to see how this one turns out."

Rachel chose a vine leaf and flower design to go round her ankle like a bracelet.

The tattoo was painted in about 10 minutes and Rachel was the proud owner of a delicate ankle bracelet. Her verdict? "I think it looks lovely.

I wouldn't want to have a real tattoo but I'm really happy with this design."

Phil Cook, 35, lives in Cheltenham with his wife Christine and their four-year-old son Dominic. He is assistant manager of the Odeon Cinema.

I've always wanted a tattoo but never got round to it.

This might be my only chance to do something about it before I get too sensible. It's funny because I was at the Reading music festival recently and nearly had a henna tattoo done then but the queue was too long." Phil chose an intricate dragon design to decorate his upper bicep.

They can't wait to see this at work," he said. Phil's dragon was completed in about 15 minutes. It was two hours before the henna soaked in and he was able to see the finished result.

What did Phil think? "It looks great. I'm really pleased with it. You may see me back for another one. I like the idea that it fades and you can have something different every time."

⁵³⁷ Lisa Sewell, "No pain, not permanent; looking good." *Illawarra Mercury*, (Australia) January 5, 1999.

LexisNexis Academic. (accessed April 11, 2013).

AT LAST: an authentic looking tattoo without the pain, expense and permanence.

Amunez temporary tattoos are the latest way to decorate your body, using a technique which has its origins in ancient Egypt.

The paint used has more lasting power, is less time consuming to apply and creates a better visual effect than other temporary tattooing techniques.

Roza Rojano, make-up artist at Fiona's Art of Hair in Corrimal, did a course late last year on the art of Amunez in Bali and has introduced the service at the salon.

After just one month, Ms Rojano's artistry is in high demand from males, females and even children.

"Amunez temporary tattoo paint gives a much better result than other products," she said.

The tattoo will last from anywhere between three to six weeks, depending on skin type.

Customers can choose from a wide range of designs or I can help them create their own individual design."

Celtic and Oriental designs are popular while children love the Walt Disney characters.

Ms Rojano said the small of the back was the most frequently requested area for tattoos while anklets, toe-rings, armbands and bracelets were also in demand.

The experienced make-up artist has worked with henna and mehndi, alternative temporary tattooing products, but prefers the Amunez paint.

Henna tattoos also look great and I can also apply them, but I think Amunez tattoos produce a better result," she said.

Henna involves quite a lot of preparation of the skin beforehand and careful maintenance afterwards. It is not as dark and it doesn't last as long.

Amunez tattoos also come with a very small price tag, ranging from about \$10 to \$60, depending on size.

Amunez temporary tattoo paint first came onto the market in 1997 when Amunez International was formed.

The company took the name Amunez from history records which detailed an Egyptian high priestess of that name, in 2000BC, who had servants decorate her body with the elaborate symbols of the gods with paint tattoos.

After intensive research, the company came up with a formula consisting of a chemical paint powder and a catalyst binding solution which produced a smooth, black paint.”

Amunez temporary tattoos now can be found in more than 14 countries and are in high demand among music and television stars as well as us mere mortals.

⁵³⁸ Dawn Schuett. "Rochester woman decorates hands, feet through practice of mehndi - An AP Member Exchange Feature." *The Associated Press State & Local Wire*, March 30, 1999. LexisNexis Academic. (accessed April 11, 2013).

⁵³⁹ Farah Baria. "The Funda Behind The Funk." *India Today*, Living Media India Ltd. August 9, 1999. LexisNexis Academic. (accessed April 11, 2013).

It all began with that quintessential Material Girl who grew up to embrace the cosmos. When pop diva Madonna chucked her faux fur and diamonds for a cosmic dot between the brows, that demure symbol of Indian womanhood suddenly became a brazen fashion statement for young women across the globe.

Now the humble bindi is back to the country of its birth - in a flashy new avatar. The hip new trend: diamante bindis winking wickedly from behind heavily mascaraed eyelashes or lining a pair of perfectly manicured eyebrows. Not exactly what Ma wore as a good bahu, but heck, who cares?

"Wearing bindis these days has loads of attitude," says fashion choreographer Anita Shroff who sports bindis on her collarbone or at the corners of her eyes - "any place except where you are supposed to."

Coupling them with a pair of tight pedal pushers and spaghetti straps will catapult you instantly into the realm of cyberfunk. For sheer fun, check out the little pink, white and pistachio fluorescent bindis that glow eerily in the dark - perfect for discos and parties.

And if you don't really dig the dot there are loads of other desi doodles to choose from: henna tattoos, anklets, amulets. Little brocade cholis teamed with itsy-bitsy shorts. And loads of glass choodis (bangles) - the kind Mumtaz wore in *Dushman*. What's the funda behind the funk? As international fashion gets more simplistic and quiet, accessories are becoming stylised and loud.

"India is hot property in international couture," says hair and make-up style-guru Vipul Bhagat. "Obviously, what's good for the rest of the world is good for us."

"Besides, India is hot property in international couture," says hair and make-up stylist Vipul Bhagat. Only last summer Jean Paul Gaultier came out with his new mirrorwork collection and Gucci followed it up with mirrorwork bags in pale pastel shades.

But Dame Judi Dench receiving her Oscar in an outfit created by Mumbai designers Abu Jani and Sandeep Khosla kind of made things official. "Obviously, what's good for the rest of the world is good for us Indians love to regurgitate what is already ours," laughs Bhagat.

But is Indifusion really ours? Unlike the ethnic wave that swept fashion off its feet 10 years ago, this is mix-and-match at its best: drawing on Indian roots and western cool. Says Tanuja Dabir, a Mumbai stylist who works with Channel V. "While wearing a bindi with a sari is ethnic, wearing it with jeans is hip."

Never mind that a 'couple of years ago it was just plain hick: you wouldn't be caught dead sporting a bindi with your Levi's. "Suddenly Indian accessories are all the rage," says beauty specialist Danny Tung.

Desi Cool is getting hot, as culture goes compellingly pop. At Vividha, a staid bindi and bangle store on Mumbai's Napean Sea Road which once catered exclusively to coy dulhans, bangles are doing brisk business with the campus crowd. "Bangles have never been so big," admits a shop assistant bemusedly. "The gaudier, the better."

Indifusion can be chic. Further downtown, a respectable old jewellery shop called Chidakashi is practically inundated with requests for "singles" - delicate silver and gold ghungroos worn on just one ankle.

"Even the traditional kairi or mango anklets are becoming immensely trendy," says Indira Bhojwani who owns the store. They "yang" especially well with a pair of faded shorts, long tanned legs and casual birkenstocks. Bhojwani sells over a dozen a week, at Rs.300 a piece.

Now silver armbands, the kind you once saw on saucy nautch girls, are the craze, designed to fit sexily on a bare, sun-kissed forearm. The other hot new Indian number is brocade - stitched into teensy weensy cholis, daring cropped tops and seductive harem pants.

At Vaudeville, a glitzy boutique in suburban Bandra, Neesha Rana hacks up original Tanjore saris to make avant garde pedal pushers and cutesy shorts. Blasphemous? Perhaps. But there is no dearth of takers for the stuff. "In the cut-throat world of fashion, only the creative survive," shrugs Rana.

Brahma Devi, a matronly mehndiwali, nods solemnly at this twist to design philosophy. For 40 years Devi painted her intricate orange creepers and badaams on thousands of palms - until a nubile young thing at a mehndi party insisted she wanted a henna tattoo around her navel. "I did it for a lark," she grins.

Now Devi is a regular at fashion shoots and boutique openings and the flowers and paisleys have given way to hearts, suns and stars and the creepers curl delicately around throats, wrists and ankles.

Henna necklaces, bracelets, pendants nestling cosily in a dipping decollete. Even the colours have changed. Dyed black henna is the most popular, followed by burgundy and brown. The adventurous try shaded designs in all three.

Devi charges anywhere between Rs.30 and Rs.75 for a single tattoo and does dozens every week. It's back to Madonna and Mumtaz. In other words, beheno, pull out mama's zardozi choli for some zip.

⁵⁴⁰ Jayani Perera, "THE CULTURE IS COOL, BUT" *The Toronto Star*. April 25, 2000. LexisNexis Academic. (accessed April 11, 2013).

Fashion mags are displaying the latest South Asian-inspired fashions, isn't it ironic that there are never South Asians modelling this latest fad? That puts a whole new spin on the term 'invisible minority'

Just recently, I went to Gerrard St. with a bunch of bridesmaids to find saris for a wedding. As we walked from store to store, I noticed bindis of all shapes and sizes, reddish and black henna and, of course, the beautiful and exotic cotton and silk fabrics commonly used for saris. The sounds of Indian music surrounded us and the air was filled with the smell of incense.

As a South Asian, these sights and sounds are nothing new to me.

These days I also see our fashions and hear our music when I walk into Le Chateau, Costa Blanca and many other hip stores. Suddenly saris, bindis and henna are the hottest style, and popular songs, like Noreaga's "Super Thug," have an obvious South Asian beat. Indian culture is oh so cool.

The funny thing is, that growing up in Canada, I did not once hear a young person remark at how great it was to be South Asian. If I was ever seen wearing a sari by one of my classmates, I could count on either being called "weird" or a "Paki." Hardly a compliment.

Among my South Asian friends, it is a well-known tale of embarrassment to have our mothers pick us up from school in full cultural costume. We've heard it all before: "Why is your mother wearing that?" or "Eew, what's that on her forehead?"

Now, with fashion industries continuously seeking new styles, Indian culture is going global. Girls from other cultures, including white girls, are sporting Indian-influenced styles and I don't hear those murmurs any more.

Even Madonna has picked up on the South Asian vibe. The video for her song "Frozen" shows Madonna's hands adorned with henna and the song itself is distinctly influenced by South Asian musical traditions.

Madonna does not stand alone. Lauryn Hill's "Killing Me Softly" draws freely on South Asian sounds and artists such as Tatyana Ali and Shania Twain are wearing bindis and saris in their videos as well.

The problem is, however, that South Asian culture has not been accepted into the cultural mainstream. Rather, it has temporarily come into style. And while our culture is what's "hot," South Asian people are not.

You just have to look at how we're represented on TV by laughing stock characters such as "Apu" (The Simpsons) or "Abu" (Seinfeld) to see that the cultural acceptance of our people lags seriously.

Perhaps we should be proud to be the butt of a few jokes. At least that way we're not totally invisible.

For example, given that fashion mags are displaying the latest South Asian inspired fashions, isn't it ironic that there are never South Asians modelling this latest fad?

That puts a whole new spin on the term "invisible minority."

Does our brown skin not compliment the fabrics, or is our hair not blond enough? Apparently, beauty has been molded into an ideal, one that South Asian people don't fit.

It's not that I mind people of other cultures wearing our clothes. In fact, I think it's kind of cool. But where does it leave us?

While the brown kids are begging their mothers to put away their bindis, other kids are begging their moms to buy them some.

South Asian kids still don't want Mom to pick them up at school because the henna is covering brown skin and the bindis rest in the middle of an Indian woman's forehead.

Obviously this is an effect of racism, one that is internalized. It is an inferiority complex that many South Asians have adopted, an inability to turn a deaf ear to racist remarks simply because we feel that others see us as inferior.

However, there is much reason for our sensitivity. We still hear the racist slurs yelled out, note the stereotypes being presented on comedies and see the lack of South Asians in magazine ads. I used to think that this was simply my own point of view, but when I asked some of my South Asian friends to share their opinions for this article, they quickly refused.

They told me that it would be too embarrassing to have their names associated with an article on South Asian culture.

It just isn't cool.

Jayani Perera, 18, is a student at Loyola Catholic Secondary School in Mississauga.

⁵⁴¹ jaded16india. Comment, "Wear your scars like jewels: Cultural Appreciation Is NOT Appropriation >" posted to *Merf. Thinking is Hard. Jha can has random thoughtz about tapirs, kitties, comics, pretty people, social justice, things in general.* April 10, 2011. <http://jhameia.tumblr.com/post/4494692757/wear-your-scars-like-jewels-cultural-appreciation-is> (accessed October 24, 2013)

Another thing, when Indian "brides" wear henna or mehendi on their hands, we're absolutely forgetting how many of them have no choice or agency when it comes to marriage, their sexuality, even the person they're marrying. Here mehendi becomes a symbol of patriarchal expression (read possession of the feminine body), so it's not *always* a celebration or a depiction of love.

Mehendi is a cultural experience for us, as little girls we put it on when we attend weddings in the family, the room and space of this ritual is purely women-specific. Here, in these gaps between patriarchy's omnipresent eye and the chromatic heteronormativity, this space becomes a medium for queer identities to express themselves, without the fear of being 'discovered' or 'ridiculed'.

So when nice imperial peeps like this person mentioned here use mehendi, you're erasing this shared-live-experience. You will never be *forced* to put mehendi without your will, it doesn't become an oppressor to you. AND YES! This is all because of your 'skin colour'. So no, you cannot express your femininity through mehendi without being a douchefucketty racist okay? okay.

⁵⁴² "Fashion Victims," *Herald Sun* (Melbourne, Australia). February 7, 2000. LexisNexis Academic. (accessed April 11, 2013).

⁵⁴³ Amunez International. "Where To Get Your Amunez Tattoo." Amunez.com. 2000. http://web.archive.org/web/20001205232400/http://www.amunez.com/studio_locations.htm (accessed August 12, 2013)

Amunez Temporary Tattoos are available in over 21 countries around the world. These "studios", can also provide D.I.Y. (Do-It-Yourself) kits, so you can do your own.

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⁵⁴⁴ Louise Palfreyman, "Alert Over Reaction to Henna Dye," *Sunday Mercury*, February 20, 2000. LexisNexis

Academic. (accessed April 11, 2013).and <http://www.questia.com/library/1G1-60900909/alert-over-reaction-to-henna-dye> (accessed September 18, 2013)

Serious allergic reactions to trendy henna tattoos has led to a warning from a top Midland consultant.

Dr Celia Moss, consultant dermatologist at Birmingham Children's Hospital, is advising people to steer clear of Indian mendhi tattoos - especially when abroad.

In its pure form, the henna dye used in traditional mendhi is harmless but Dr Moss has found inferior dyes in use at popular holiday destinations contain a chemical known as para-phenylene diamine (PPD).

PPD, a black substance used in hair and textile dyes, can cause sensitization of the skin, which means a rash will appear every time the substance is introduced in the body.

PPD is found in hair dye, clothing, suncream and orange peel - meaning that once a person has had a reaction to a tattoo, they are vulnerable to a wide range of sources of PPD. Madonna started the craze for mendhi last year and got into trouble at an award ceremony for sporting a forehead decoration reserved for priests.

Dr Moss says the tattoos should be avoided because of the long-term problems an allergy can cause.

She has noticed an increase in children arriving with severe eczema caused by tattoo dye. Most of the cases appeared in holidaymakers who got a tattoo as a souvenir.

Debbie Palmer, aged 35, of Stirchley, was on holiday in Turkey last July when she allowed her two sons Martin, 15, and Dean, 11, to have designs painted at a market stall.

Debbie, a factory worker, said: "We didn't notice anything at first, and it was only when they went back at the end of the holiday for a "top-up" - because the tattoos fade - that a reaction was caused.

"Both my sons complained of itching when they were on the plane coming home and within a couple of days they had broken out in an awful rash which developed yellow heads."

Martin and Dean recovered after treatment at Birmingham Children's Hospital but still bear the scars from their tattoos - and they will always be at risk from products containing PPD.

Dr Moss has seen five children in recent months with serious allergic reactions to mendhi and believes the tattoos should be avoided.

"People don't realise an allergy is a serious possibility and one which has lasting effects.

"I would advise anyone, child or adult, to think twice before getting one of these tattoos done," she said.

⁵⁴⁵ Lyon, M. J, Shaw, J. C., Linder, J. L. "Allergic Contact Dermatitis Reaction to Henna." VIGNETTES. *Archives of Dermatology*. Vol. 136 No. 1, January 2000.

A healthy 30-year-old woman obtained a henna "tattoo" from a street vendor on a California beach. Ten days later she noted pruritus followed by multiple small papules overlying the pattern encircling her left arm. Several days later, the design appeared erythematous and raised, sparing the unpainted areas (Figure 1). Treatment with topical diflorasone diacetate resulted in gradual improvement with resolution in several weeks. The patient denied prior exposure to henna. She chose not to have a skin biopsy and patch testing to henna. However, the time course and clinical morphology of the dermatitis were typical of a type IV hypersensitivity reaction to henna.

⁵⁴⁶ "Henna "tattoos" may cause allergic reaction." *Reuters Health eLine News*. March 8, 2000. LexisNexis

Academic. (accessed April 11, 2013).

"If you're "dyeing" to be part of the henna tattoo craze that has left its mark on the nation over the past few years, you may want to think twice, researchers warn.

"According to a recent report in the Archives of Dermatology, these removable "tattoos" can cause an allergic reaction that results in inflammation, severe itching, and rash.

"With the increased popularity and availability of henna, clinicians should be aware of this complication," conclude Dr. Milena J. Lyon of the University of Chicago, Illinois, and colleagues.

"They document the case of a 30-year-old woman who received a tattoo on her arm from a street vendor in California. After 10 days the woman noticed itchy bumps, reddening, and inflammation on the area covered by henna.

"Her symptoms gradually improved after treatment with a topical drug. While the woman did not have a patch test to diagnose allergy, the incident is typical of an allergic reaction, the researchers write.

"Henna is a shrub found in North America and the Middle East. When the leaves are ground to form a paste, they produce a red-brown dye. Henna is used decoratively in Islamic and Indian cultures. In America, henna is used to color hair and, recently, as a removable tattoo.

"The use of henna has become increasingly popular in western cultures as a safe alternative to permanent tattoos," the authors write. "The painted henna tattoo can easily be obtained from a streetside artisan or a 'do-it-yourself' kit and lasts approximately 3 weeks."

"The American Academy of Dermatology has no guidelines or recommendations on the use of henna tattoos.

⁵⁴⁷ Tosti A, Pazzaglia M, Bertazzoni M. 2000. Contact Allergy From Temporary Tattoos. *Archives of Dermatology*.

2000;136(8):1061-1062.

⁵⁴⁸ Michelle MacAfee, "Side-effects can be ugly: Tattoos and body piercing." *Calgary Herald* (Alberta, Canada).

July 3, 2000. LexisNexis Academic. (accessed April 11, 2013).

⁵⁴⁹ JUDITH FEIN "The exotic charms of Tunisia." *Santa Fe New Mexican* (New Mexico). July 16, 2000.

LexisNexis Academic. (accessed April 11, 2013).

After the impromptu repast, the gentle shepherdess painted henna onto the palm of my right hand and over my fingertips. Then she swathed the hand in a long strip of cotton, covered the whole thing with a black plastic bag, and gave follow-up instructions, which our guide translated: "Do not use your hand for twelve

hours until the henna design has really set. The decoration of your hand will act as a good luck charm." As I held my bagged hand aloft, our Berber hostess introduced us to her children and her newest baby goat.

⁵⁵⁰ "BARE ARMS DRAW DAGGERS, SWEET WORDS GREET VISITOR." *The Toronto Star*. July 28, 2000. LexisNexis Academic. (accessed April 11, 2013).

The other day, when I ventured into a heavily curtained Sana'a beauty salon in the hope of booking myself for the lovely henna stencilling of women's hands and feet, I was confronted by a row of black-swathed women, sitting on a long couch, waiting their turn to be coiffed. Even in this female sanctuary, they did not remove their wrappings until they actually got into a styling chair.

They are like black ghosts, floating about the city, covens of crows, more firmly de-sexed than nuns in their traditional habits. Actually, I came to think of them as sleek Ninjas, flitting here and there.

I was touched, though, to see how cleverly and persistently and obstinately these Yemeni women transcended the male-imposed severity of their coverings. Some went in for bold-coloured shoes, bright red and yellow. All of them had henna artistry on their appendages. They were laden with gold bangles and jingly necklaces and rings on all their fingers. An increasing number have taken to trimming their funereal shrouds with sparkly appliques and colourful embroidery. They carry designer purses.

⁵⁵¹ "Cultural project teaches henna tattooing." *Western Morning News* (Plymouth). July 17, 2000. LexisNexis Academic. (accessed April 11, 2013).

"DEVI Patel, from the Bristol Black Arts Project gave students at a Plymouth school lessons in the art of henna tattooing as part of a wider project designed to give pupils across the city an insight into different cultures.

"Ms Patel was visiting Devonport High School for Girls, where she shared her knowledge of the art with the girls and joined in with discussions on India, Hinduism and racial issues."

⁵⁵² Narry Kim, "Many cultures, one world; Cultural Festival's organ donor table underscores our shared humanity." *The Pantagraph* (Bloomington, IL). August 27, 2000. LexisNexis Academic. (accessed April 11, 2013).

The "Life Goes On ... Be an Organ/Tissue Donor" table at the Resource Bazaar in the Miller Park Pavilion reminded people everyone is part of the human race, despite cultural differences.

"The main purpose of the festival is for us to learn about other cultures so we can learn about each other," Hastings explained. "The way for us to do that is through association. Bringing people together - that's what it is all about."

From the Mt. Pisgah Praise Dancers performing on center stage, to the ethnic art displayed in the craft stands in the Cultural Village and hat-making in the Children's Village, the afternoon provided visitors with a wide variety of activities.

At a table set up by the McLean County India Association, anyone interested could have their hands decorated with henna painting, where a dye - made from henna plant powder soaked in water - is used to paint intricate patterns on the hand.

"We are proud to show what we have," said Asha Chandak, McLean County India Association president. "The festival helps to make people aware of the diverse cultures we have in Bloomington-Normal and shows we can have quite a few similarities as well as differences and can still like it."

⁵⁵³ "Sizzling City." *The Gazette* (Montreal, Quebec). August 1, 2000. LexisNexis Academic. (accessed April 11, 2013).

In my people-watching, I caught Yvonne Ren, visiting from Calgary, having her portrait done by a street artist, and Helene Rivest, 6, with her long hair in a multitude of mini braids. Julie Laberge and Genevieve Brin took a break from decorating hair in colourful embroidery-thread wrap to pose in their beautiful sarongs. Henna tattoo artist Daniel Monsa was putting the finishing touches to a temporary but long-lasting design around Genevieve Boucher's navel. The sun design framed her silver-and-bead navel ring perfectly. Friends Shereese Halley of Toronto visiting Catherine Sloan of Montreal looked summer perfect in mini and pedal pushers. They were searching Old Montreal for a Greek salad.

⁵⁵⁴ "A look at recent self-help books." *The Dallas Morning News*. August 1, 2000. LexisNexis Academic. (accessed April 11, 2013).

"The Art of Mehndi," by Jane Glicksman (Lowell House paperback, \$4.95). Glicksman says it's easy to trace the use of henna for bodily decoration back to the Egyptians: The plant was placed in tombs so their occupants could "look really radical in the next world."

⁵⁵⁵ Steve Manning, "Rehoboth places strict limits on henna tattoos." *The Associated Press State & Local Wire*. September 1, 2000. LexisNexis Academic. (accessed April 11, 2013).

Some call them art. Some say they are stylish (after all, Madonna has worn them), but to Rehoboth Beach officials, henna designs are just plain tattoos.

Which means, according to a city ordinance, that the often elaborate designs painted onto the skin can only be done by a trained doctor in the upscale resort town.

Local merchants who offer henna say they are being unfairly shut out of a lucrative summer business.

At least four area businesses received letters from the town last week informing them that they would have to shut down their henna business by Sept. 8 if they can't comply with the ordinance's medical requirements.

"What physician do you need for hand painting?" asked Rajni Kurani, who first introduced the Indian body decoration practice to the resort five years ago in several of her downtown shops. "I can't figure out what they are objecting to."

Henna is applied without breaking the skin, and the designs last for only a week or so.

The popularity of henna tattooing has exploded this season in Rehoboth according to merchants, especially among teen-age girls who sport the intricate designs or caricatures on ankles, shoulders and on their upper backs.

But unlike traditional tattoos that are painfully etched into the skin for permanence, these dyes made from henna plants gradually fade away.

That distinction is not recognized in the ordinance. Article 8 of the Code of the City defines tattoo as any ink design "resulting in the coloration of the skin by the aid of needles or any other instrument designed to touch or puncture the skin."

Town officials say that definition includes henna tattooing.

"We don't see it as a health hazard, but by ordinance, it technically fits our definition," said Susan Frederick, the city's building and licensing supervisor who sent the letters on Aug. 23.

Rehoboth's laws strictly regulate any form of body alteration. The ordinance that bars tattooing was drafted in the early 1980s after a traditional tattoo parlor opened downtown. It was expanded in 1995 to include body piercing.

"The city commissioners were concerned about the health aspects, but also that young people would get tattoos that they would regret later," said Mayor Samuel R. Cooper.

However, what put henna tattoos on the radar of town leaders may not have been motivated by health concerns.

It was a tattoo parlor, just outside of Rehoboth town limits, that pointed out the henna violation to city officials, according to attorney Thomas Barnett.

Barnett sent a letter of complaint last month to the city on behalf of his tattoo client, whom he declined to name. It was this notification that prompted the city to act, according to Mayor Cooper.

"If they are not going to allow tattooing under the ordinance, then they aren't going to allow henna," Barnett said.

Rehoboth shop owners say there is a dramatic difference between their clientele and people who get traditional tattoos.

"This is such a positive thing, we get people from age six to 65 who like henna," said Claude Amar, pointing to a pair of teen-age girls and their mothers searching through possible henna designs on the wall of his clothing shop near the beach. Amar says about 30 percent of his revenue this summer came from henna tattoos.

Frederick said she intentionally set the deadline for compliance with the order after the summer season was over.

"I didn't want to hit them broadside with this. I wanted to give them reasonable time to react to it and possibly follow it up with the city," she said.

That's exactly what Amar plans to do. He said he wants to demonstrate henna tattooing to the city council because he thinks they don't know what the process involves. In part he's right - Mayor Cooper said he doesn't know how a henna tattoo is applied or what the dye is made of.

If that fails, Amar says he is willing to do what it takes to distinguish henna from the city's definition of tattoo.

"If I can't convince them this has no connection to real tattoos, then I'm going to fight it," he said.

⁵⁵⁶ Tom Chesshyre, "Tourists at risk from henna infections." *The Times* (London). October 28, 2000.. LexisNexis Academic. (accessed April 11, 2013).

Holidaymakers who have tattoos abroad may develop skin complaints, says Tom Chesshyre

Tourists who get trendy henna tattoos while abroad are at risk from serious skin complaints from infectious black ink, experts warn.

People returning from foreign trips claim that unscrupulous henna tattooists in exotic destinations are offering potentially scarring black henna tattoos to holidaymakers, rather than the safe, traditional, henna tattoos, which are caramel-coloured.

Over the past two years, there have been widespread reports of infections, with tourists discovering sores two or three weeks after receiving tattoos - the ink has a delayed reaction. Most sufferers are home by then, which means tattooists are not being taken to task.

Countries known to have dangerous black henna tattooists include Thailand, the Philippines, Australia, Mexico, Greece, Turkey, Egypt and South Africa. Goa in India, Bali in Indonesia and Key West and Hawaii in the US are also singled out for criticism.

The delayed effect is caused by ink sinking slowly into the skin. After the two-to-three week "incubation" period, there can be blistering and oozing sores.

The only practical way to detect whether a henna tattoo will be safe is to ask the vendor whether the ink contains P-Phenylenediamine - if no straight answer can be given, steer clear. There should be no problems with traditional rust-red or brown-red coloured tattoos.

Hundreds of British holidaymakers, mainly backpackers, have been affected, according to henna tattooists in the UK, who have been approached by returning holidaymakers concerned about sores. Dr Richard Barlow, of St John's Institute of Dermatology in London, said: "Some inks have always caused inflammation, swelling and pain, so people should be careful.

"There have also been cases of black henna problems in Britain. Most of these have involved street artists who offer tattoos to passers by in seaside resorts. Alex Morgan, a henna tattooist who works from home in Oxford, said: "Street artists get a lot of passing trade, but many of them should not be trusted."

⁵⁵⁷ Gotham Gal blog. "Damn, another sunny day," posted to *Gothem Gal*. March 26, 2009.

http://www.gothamgal.com/gotham_gal/2009/03/ (accessed September 5, 2013)

Afterward we drove over to Venice Beach. What's a trip to Los Angeles without a stroll down the Henna boardwalk. Such a trip. Henna tattoos, lots of bong shops, loads of silver jewelry, t-shirts and then of course just the people. Muscle beach is classic as the men come and flex their muscles working out on the boardwalk. Paddle tennis courts. Tourists and locals abound. Em and Jess went for the henna tattoo...how could you not?

⁵⁵⁸ Paul Watson, "Scarred Girl's Mother Warns of Fake Tattoos." *Press Association*. January 6, 2001 . LexisNexis Academic. (accessed April 14, 2013).

Ms Gilchrist, 25, let daughter Jessica Jones have the temporary tattoo as a treat while on a Mediterranean family holiday last summer but she was left scarred and in agony after the black dye para-phenylenediamine (PPD) was used.

⁵⁵⁹ Kevin Donald, "Jessica, 7, poisoned by rogue tattoo artist - Holiday treat turns into a nightmare." *The Journal*. (Newcastle, UK). January 6, 2001. LexisNexis Academic. (accessed April 14, 2013).

Little Jessica Jones was left poisoned and scarred by a temporary tattoo she was given while on holiday abroad.

The seven-year-old is one of a growing number of victims of unscrupulous body artists who use a dangerous dye instead of harmless henna on Mediterranean beaches.

Skin specialists in the region have been inundated with cases of young people who have been poisoned by the dye, which leaves them in agony and can affect them for life.

The black dye is applied to the skin by rogue tattooists who use it as a cheap alternative to henna.

They are using a dye which they know can be dangerous to make money quickly and people are being left to pick up the pieces afterwards.

The shape of the tattoo is now burned into Jessica's skin in a white patch, which will hopefully fade with time.

Dr Taylor decided to speak out because of the number of cases being referred to her. Henna art is now a growing trend, especially in popular holiday resorts.

She said: "Real henna takes hours and hours to dry and leaves a harmless stain on the skin beneath it. PPD is much more abrasive and can lead to dreadful consequences for many people who have a reaction to it.

It is being used all over the Mediterranean because it is cheap and dries quickly, which means the people can squeeze in more customers."

⁵⁶⁰ Brian Roberts, "TATTOO WARNING AS GIRL, 7, IS POISONED." *The Mirror*. January 6, 2001. LexisNexis Academic. (accessed April 14, 2013).

⁵⁶¹ Heike Phillips, January 14, 2001, "Children scarred by 'temporary' henna body art." *South China Morning Post* (Hong Kong). Date Accessed: 2013/04/14. www.lexisnexus.com/hottopics/lnacademic.

A holiday souvenir has turned into a nightmare for two 10-year-olds whose supposedly temporary tattoos may have marked them for life.

The children - a boy and girl from different families - needed medical treatment after coming out in weeping sores days after receiving the fashionable henna body paintings at the southern Thai resort of Phuket.

The boy's mother, who did not want to give her surname, said: "We want to warn parents not to let their children get one of these popular henna skin paintings."

Her son James suffered a severe reaction to the henna cobra painted on his back by a beach tattooist at the resort on December 22 last year.

"Henna is a natural substance that's made into a paste and painted on to the body," she said. "The colouring washes off after a week or two, so we really didn't give it another thought."

But within four days James broke out in bumps and blisters that developed into oozing sores where the henna dye had been applied to a 10cm-long area.

Another young victim of the henna holiday trend was 10-year-old Susie Riza, whose shoulder tattoo left a white mark in the shape of a dragon.

Her mother, Janet, hopes the mark will eventually disappear. "Susie's supposedly temporary tattoo was done while holidaying in Phuket in July last year - she really doesn't like the white mark it has left," she said.

The girl broke out in bumps and blisters within three days of having the tattoo done, in what doctors say was an allergic reaction.

⁵⁶² Heike Phillips, "Black dye can harm internal organs." *South China Morning Post* (Hong Kong). January 14, 2001. LexisNexis Academic. (accessed April 14, 2013).

⁵⁶³ "Tattoo Terror." *The Dominion*. (Wellington). January 30, 2001. LexisNexis Academic. (accessed April 11, 2013).

James O'Dowd, 8, from Seatoun, Wellington, displays a painful henna tattoo that he had done while he and his mother, Christine, were holidaying in Bali this month. His mother had one done too.

An allergic reaction to the tattoos has made their skin itchy, puffy and blistered.

Ms O'Dowd said the tattooist at the Bali Dynasty Hotel had advertised "safe, harmless henna," "I wasn't in some back street alley, it was all above board." But a week later James complained his tattoo was itchy.

"I was horrified to see the thing had burnt into his skin," Ms O'Dowd said. Her tattoo had done the same. She had since found instances on the Internet of people with similar symptoms after being tattooed with "black henna", which contains a toxic chemical. Ms. O'Dowd said she thought their tattoos must have contained this chemical, as they were black, not brown like traditional henna.

⁵⁶⁴ Zoe Chamberlain, "FESTIVAL SPECIAL: ART AND SOUL OF ASIAN LIFE; ASIAN ART FORMS LIKE MEHNDI AND AYURVEDA HAVE BEEN EMBRACED BY WESTERN CELEBRITIES, INCLUDING MADONNA AND NAOMI CAMPBELL. ZOE CHAMBERLAIN VISITS A BIRMINGHAM COMMUNITY CENTRE WHERE THEY ARE FAR MORE THAN JUST THE LATEST FAD." *Birmingham Evening Mail*. (March 5, 2001 , Monday) LexisNexis Academic. (accessed April 11, 2013).

A PROPHET was passing through the heavens and found a beautiful plant which he brought to earth for his daughter. As she cared for and nurtured the plant, she discovered her hands had turned red from touching the leaves - and the art of mehndi was born.

Today it has been made popular in the West by glamorous celebrities including Madonna and supermodel Naomi Campbell.

Mehndi teacher and expert Rehanna Vohra, from Sparkhill, said: "This art form was passed down through generations of women in my family.

"I began to do mehndi at around six years old with my mother and my sister. It is something that is very important to the Bohra community, my community. My sister began doing mehndi for our neighbours and family members, and soon after I was pleased my father let me go out with my sister."

Rehanna, aged 47, began teaching and is now paid up to pounds 50 per hour by brides wanting mehndi as part of their wedding celebration. She also does many mehndi sessions as a way of fundraising for charity and helping local community groups.

⁵⁶⁵ "How Asir retains its charm of yore." *Middle East Newsfile*. July 11, 2001. LexisNexis Academic. (accessed April 11, 2013).

"Last year a new attraction for tourists was introduced--wedding parties as they were celebrated in the olden days. These celebrations are for public viewing of traditional fashions and tourists often don the handwoven black or red dresses embellished with golden threads and splendid drawings, and join in the fun. This garment is known as the Asiri thobe. For the Asiris, wearing traditional clothes and celebrating marriages in the original custom of the area are a matter of pride. The women would wear yellow headscarves on hair pasted with henna and perfumed powder and have intricate and beautiful henna artwork done on their hands. A lasting memory for tourists would probably be the generosity of the Asiris who gladly go out of the way to prepare food for guests and entertain them."

⁵⁶⁶ Steele Smith, "Henna Tattoos: The Dark Side." *Speak Out! Letters to the Editor* (May 8, 2001) *The LookOut* http://www.surfsantamonica.com/ssm_site/the_lookout/letters/Letters-2001/May_2001/05_08_2001_Henna_Tatoos_The_Dark_Side.htm (accessed August 9, 2013)

"Unfortunately the recent popularity of henna tattoos has pushed some artists into using a dangerous chemical called Paraphenyldiamine in order to distinguish themselves from their competitors. This chemical, mercifully known as PPD makes a significantly darker tattoo than Henna. This dangerous concoction is typically marketed as "black henna."

"PPD is jet black and looks more like a real tattoo. In fact that's why many people choose it. To the uninitiated PPD seems to be a more striking version of henna. It isn't.

"PPD tattoos have begun showing up at the UCLA Department of Dermatology lately because of what PPD can do to some people's skin. In some cases it can cause severe burns that literally eat through the skin. This typically begins with a scaling of the skin underneath the tattoo and is accompanied by a severe itch. As the reaction continues pustules form, begin to ooze and the entire area underneath the tattoo swells. As the swelling continues the area can ulcerate and this can cause permanent scarring.

"Also, recording the artist's name and permit number will give you some recourse in the event the artist is not working with pure henna. The city of Santa Monica only issues permits for pure henna tattoo work and allows no additives other than lemon juice, which is traditionally added to the paste to make it more acidic, and oil to help the henna's color penetrate the outer layers of skin.

"In my experience as the Artists Liaison for the Bayside District Corporation and through my work on the Pier I've met many henna artists who would never use something that would put their customers' health at risk. The vast majority of henna artists are what I would call "henna purists." In fact I haven't seen any so-called "black henna" on them Promenade in more than a year. Regrettably I have encountered it more recently on the Pier."

⁵⁶⁷ "News briefs from Southern California." *The Associated Press State & Local Wire*. LexisNexis Academic. (accessed April 4, 2013.)

SANTA MONICA, Calif. (AP) - Henna artists, those free spirits who draw temporary tattoo-like drawings on people - are angry about the city ban prohibiting them from the Third Street Promenade and Santa Monica Pier.

Concerns about the safety of dyes and its view that the art form is not entertainment, the City Council voted 4-3 in November to ban henna artists. It became law Jan. 1. Several people had complained after reporting health problems related to apparently fake henna drawings.

Henna artist Roy Mayhew and colleagues say the ordinance is unfair.

"We have a right to do art," Mayhew said."

It's very surprising that Santa Monica, known for its artistic innovation, would choose to ban (henna)," said activist Jerry Rubin, who joined Mayhew and two other henna artists Thursday on the Promenade to defy the ban by offering free henna drawings to passers-by.

"There have been complaints - a lot of complaints - that they don't use the right dye," Councilman Herb Katz said.

Real henna occurs in brown or shades of orange. Mayhew said black henna, which can cause stains, rashes or puffiness of the skin, is probably hair dye.

⁵⁶⁸ Kate Whitehead, "Art of faking it." *South China Morning Post* (Hong Kong). May 30, 2001. LexisNexis Academic. (accessed April 12, 2013).

TATTOOS HAVE LONG shed their risqué, radical biker image, especially in the past few years when they've been widely adopted by the fashion cognoscenti. Tattoos are still hip this season, but even more so are the fake versions, which offer a needle- and pain-free introduction to body art. It is all about flirting with danger for a night and still looking sharp in the office on a Monday morning. And with summer on the way, body decoration comes into its own when you can peel off the layers and get down to some serious flaunting.

Henna tattoos come in varying shades of red through to brown and black, which is the most popular because it gives the best stain. However, when a child returned from a family holiday in Thailand with an allergic reaction to henna earlier this year, such tattoos came in for some bad press. It was an isolated incident, but serves as a cautionary tale: the only way to guarantee safety is by doing a patch test first. Adverse reactions can include burning, itching and blistering.

⁵⁶⁹ Li Xueying, "Scars as holiday souvenirs." *The Straits Times* (Singapore). July 15, 2001. LexisNexis Academic. (accessed April 14, 2013).

Ms Lee, 22, said she brought home two scars, on her midriff and right arm, as souvenirs from a holiday in Koh Samui. The scars were courtesy of a henna painting job that went awry.

"It was itchy, painful, and little bubbles were forming on the henna designs," she said.

That was a year ago. Today, the irritation has subsided but the scars -- inscribed on her flesh in the original tribal henna design -- remain.

Ms Lee said that she paid for what is known as "black henna."

Professor Goh Chee Leok, medical director of National Skin Centre, said the centre saw about three to four cases of henna-PPD-related allergies last year.”

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Professor Goh Chee Leok, medical director of National Skin Centre, said the centre saw about three to four cases of henna-PPD-related allergies last year.”

⁵⁷⁰ Tamara Thiessen, "Hands up who's got a ... HENNA ALLERGY." *The Straits Times* (Singapore) June 15, 2001. LexisNexis Academic. (accessed April 14, 2013).

"Above all, these tattoos can cause a hypersensitivity to PPD, which is used in several industrial practices -- adolescents who are affected will be completely unable to enter into a number of professions, such as hairdressing and leather-related work, or rubber and several other industrial activities."

French medical expert Denis Durand de Bousingen estimates that most at risk are the henna body-art tourists, and not those who either do it themselves or have it done in Europe.

"To use the adulterated product is actually illegal, so it depends whether the system is well-regulated in the particular country," she says.

Things are pretty lax that way in countries like Morocco, Thailand and India, which is where many of the problems are arising.

⁵⁷¹ Blackhenna.net <http://web.archive.org/web/20001004044543/http://blackhenna.net/cgi-local/shop.pl/page=acceuil.html> (captures between June 2000 and February 2, 2002) (accessed August 12, 2013)

“Temporary tattoo paint in Super Black for tattoos that are long lasting, durable, waterproof and easy to apply!

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“the black henna paint is a Super Black, which can last on the skin for up to 14 days. There have been some reports of skin life up to 6 weeks.

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BLACK HENNA PAINT POWDER : henna 50%,ethyl cellulose,carmine,para phenylendiamine,titanium dioxide ,iron oxide.”

⁵⁷² Tarawa.com “Tarawa World” <http://web.archive.org/web/19981203103957/http://www.tarawa.com/>

Captures February 1998 through October 31, 2001 (accessed August 12, 2013)

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⁵⁷³ Tamara Thiessen. "More than skin deep; Insight." *Sydney Morning Herald* (Australia). July 31, 2001. LexisNexis Academic. (accessed April 12, 2013).

“... (to) remember the "the three Ps" before getting their skin stained in Australia or overseas. "P for `Previous rash' if you have had a previous rash after using a dye, especially a hair dye, beware. The second P is for `Poor communication' ask the artists about the ingredients in their henna. If they don't know, won't tell you or you don't understand them, walk away. The last P is for `Purple stain' ask what colour the stain will be and if the answer is purple or blue or black, don't go ahead with the application."

⁵⁷⁴ Tamara Thiessen, "Rash decision." *New Scientist*. August 18, 2001. LexisNexis Academic. (accessed April 12, 2013).

⁵⁷⁵ Lena Corner, "WHEN A PASSING FAD LEAVES A LASTING SCAR; MADONNA MADE THEM

DESIRABLE. BUT, SAYS LENA CORNER, HENNA TATTOOS CAN BE WITH YOU FOR LONGER THAN YOU PLANNED." *The Independent* (London). August 17, 2001. LexisNexis Academic. (accessed April 12, 2013).

WHEN MADONNA was launching the single "Frozen" from her album *Ray of Light* in 1998, she scanned around, as she always does, for a completely new look. It was an important release for her, the first in a few years out of the public eye. She turned to the East for inspiration, and the accompanying video featured a windswept Madonna, clad all in black, flapping around in the Mojave desert. The emphasis wasn't on her cleavage or her pout, as has so often been the case. This time it was her hands - each one painted with an intricate henna tattoo spiralling up her arm.

Not long afterwards, she featured on the National Lottery show on Saturday night, curling and twisting and stroking her hands in close-up for the camera. Overnight, henna body art, or "mehndi" as it is traditionally known, went from being a long-established practise used by Hindus and Muslims, usually at weddings, to a major fashion trend.

"It was a huge craze for the beauty industry a couple of summers ago," says Bethan Cole, commissioning editor of *Vogue*. "It came out of Hollywood - one of those celebrity-driven crazes. But it went mainstream pretty quickly. It was linked to the trend for wearing bindis. Maybe if you went to a festival or the Tribal Gathering, you would spot someone getting their hair braided or their hands tattooed - but thankfully, it was never something that really functioned on the club scene or at indie level. It was never really very disco, was it?"

Recently, however, skin specialists have noticed cases of people developing severe skin reactions soon after having these tattoos done.

"My daughter had one done when we were on holiday in Tunisia," says writer Yasmin Alibhai-Brown. "I don't know what they put into it, but it burnt into her skin. Her upper arm is now completely scarred. It was very frightening to watch this stuff burn into my little girl's flesh."

"I'd been wearing it on my hands and feet at weddings for years, and she was completely uninterested. It was only when it was turned into a fashion item - when she saw all these white people queuing up to get one - that it became something she really wanted."

Another victim, a seven-year-old boy, had a henna scorpion painted on his shoulder by a street artist. Shortly afterwards, his skin broke out in an angry rash, and now he faces permanent skin-discolouration and scarring as a result. The problem with the tattoos is not the henna dye itself, which is a natural plant extract, but a colour-enhancing chemical called para-phenylenediamine (PPD), which gets added in modern tattoos because modern users want them to be darker and longer-lasting.

"People developing allergic reactions to henna tattoos have been seen with increasing frequency in the past few years," says Dr Samantha Hunt, the registrar dermatologist at Chelsea and Westminster Hospital. "PPD, a chemical normally used in hair dye to make the colour permanent, is added to some henna to prolong the life of the tattoo. PPD can cause an allergic contact-dermatitis, which is seen most commonly as an eczematous reaction. In some cases, severe scarring is left when the tattoo has faded, but a permanent mark is left in the shape of the original markings

"What irritates me," says Alibhai-Brown, "is that, like many of these non-western 'trends', people know nothing about their value until someone like Madonna discovers them. Then they become expensive, consumerist, and that destroys them. If people are interested in henna they should find out more about it, instead of adding all these chemicals to it."

⁵⁷⁶ "Henna Nights at Jashanmal." *Bahrain Tribune*. December 10, 2001. LexisNexis Academic. (accessed April 12, 2013).

ASHANMAL is offering special Henna painting to its customers at its Beauty Hall in Al A+IBk-ali Shopping Complex. The Henna Nights special offer will start on December 12 and last until the month end, on the purchase of cosmetics, skin care products and perfumes. Jashanmal Perfumes and Cosmetics Manager Lynn Perez said that their customers can experience the beauty and artistic way to express themselves with their traditional and modern art of Henna painting during the promotion period. For the purchase of every BD15 to BD25 regular painting is offered, on BD26 to BD45 classic painting and on over BD50 brown and black henna painting is available.

⁵⁷⁷ My Ngo, "Black henna poses health threat to users." *The California Aggie*, University Wire. October 31, 2001. LexisNexis Academic. (accessed April 12, 2013).

"I wore it for the Whole Earth Festival last year," said UC Davis junior Mike Lee. "I wore it pretty much for fun. It was cool."

However, for other wearers, the art holds a deeper, more spiritual meaning.

"It's very spiritual -- it's a prayer," said Renu Lal, a henna artist and owner of Hair Formations in Sacramento. "It's called the unspoken language for women."

Many of Lal's clients give testimony to henna's spiritual power. Rose Zahnn, a personal trainer at Healthy Habits Fitness and Yoga Studio wears henna frequently and claims that each henna experience is a spiritual one.

"I definitely felt better the first time I got it," she said. "The cool thing is that every time you look at it, you feel special."

Like tattoos, henna has an infinite number of design possibilities. Big or small, Lal said she can draw virtually anything.

"I've done pictures of the American flag, Mexican symbols, you name it," she said.

But for the traditional type, Lal said she draws the more symbolic designs, each with its own meaning. For example, the lotus symbolizes romance, vines represent vitality and swans signify success, she said.

However, the Food and Drug Administration and the Environmental Protection Agency are concerned about the safety and health effects of copycat products that assert themselves as henna.

According to the FDA, many manufacturers market their product as henna when, in fact, it is not. They call it "black henna" or "colored henna."

Different from henna, black henna uses a black dye called phenylenediamine, otherwise known as PPD, which produces a rich black color when applied to the skin.

PPD is commonly found in many black hair dyes and is known to cause a number of health related problems when applied improperly.

According to the United States Food and Drug Administration Center for Food Safety and Applied Nutrition Web site, "the only legal use of PPD in cosmetics is as a hair dye." The product is not approved for direct application to the skin.

With so many different henna-like products on the market buyers should make sure they are purchasing safe ingredients.

According to Lal, one has to make sure he or she is getting henna and not black or colored henna. Real henna comes in the form of a green powder which, once mixed with oil and tea and applied to the skin, produces an orange to brown color, depending on the user's skin tone, she said.

Black henna, however, is a pure black paste and is black when applied to the skin. According to hennapage.com, real henna only penetrates the dead skin cells of the dermis, while PPD penetrates the skin and then enters into the bloodstream.

Lal said she hopes henna users and prospective wearers understand the difference between henna and copycat products, and embrace the plant extract as a spiritual, as well as safe, art. "It's done wonders in my life," she said.

⁵⁷⁸ Alan Mozes "Henna temporary tattooing linked to skin allergies." *Reuters Health eLine News*. January 23, 2002.

LexisNexis Academic. (accessed: April 12, 2013)

People who suffer from often-painful allergies to temporary tattoos using a henna-based dye are not reacting to henna, but to a chemical additive used to darken the dye, Taiwanese researchers report.

In the January issue of the *Archives of Dermatology*, researchers led by Dr. Wen-Hung Chung discuss the cases of 10 patients who experienced allergic skin reactions after receiving henna tattoos while vacationing in Thailand and Bali in 2000. The patients sought care for inflamed, burning and rash-covered skin at the tattoo site.

Chung's team reports that a chemical analysis of the type of commercial black henna powder that had been applied to the patients' skin revealed the presence of an additive, p-phenylenediamine (PPD). The researchers conclude that PPD--which alters the grayish green color of natural henna to purple, blue-black or black--was the "principal cause responsible" for all of the allergic reactions."

⁵⁷⁹ Victoria Hislop. "When it's more than skin deep Henna tattoos may look beautiful but they could have painful and long-lasting effects, as Victoria Hislop found out after a trip to Goa." *SUNDAY SUTLEAPH* (LONDON).

February 10, 2002. LexisNexis Academic. (accessed: April 12, 2013)

On a Goan beach there is no shortage of henna tattoo artists. You don't have to go to them, they come to you, in droves, touting their wares by approaching you with their little books of traditional designs and competing with each other to win your business. The children were keen - lots of footballers and pop stars have real ones after all - and they would be certain to wear off before they went back to school.

They sat under a huge beach umbrella for an hour while the henna was applied to their skin, using a piece of grass as a paintbrush. They were told not to go into the sea for a few hours and to leave the henna untouched until it formed a crust. When the children showered the lumpy henna mixture off that night, their skin had been magically stained. The results were rather beautiful.

The tattoos continued to look great for the duration of the holiday - and pretty cool too. It was only when we had flown home that things turned nasty. The dark brown began to fade, just as we had expected. But what we hadn't anticipated was that the images (dolphin, sea lion and intricate bracelet patterns) now stood out in bright red on their skin and within days had transformed into lumpy three-dimensional tattoos complete with extreme itchiness.

“Goodbye lovely dark brown filigree, hello scabrous, angry sores.”

⁵⁸⁰ "North Wildwood joins in henna tattoo ban." *The Associated Press State & Local Wire*. March 9, 2002.

LexisNexis Academic. (accessed: April 14, 2013)

⁵⁸¹ Amy S. Rosenberg. "N. Wildwood joins ban of henna tattoos; The town acted in response to complaints of rashes and burns. You can still legally buy a hermit crab, though." *The Philadelphia Inquirer*. March 9, 2002. LexisNexis Academic. (accessed April 12, 2013).

⁵⁸² Ashely Powers, "TATOO'S HIP ALTERNATIVE; OCEANFRONT SHOPS GIVES TOURISTS A TEMPORARY WALK ON THE WILD SIDE WITH HENNA." *The Virginian-Pilot* (Norfolk, Va.). July 13, 2002 Saturday. LexisNexis Academic. (accessed April 12, 2013).

J.D. Crowe leases his 17th Street shop to henna and temporary tattoo artists who can refer clients to his permanent tattoo parlor.

"It always starts with one, and then the guy down the street notices someone else making a buck and says, 'Hey, I can do that, too,' "Crowe said. "So he puts henna in his store, and then the next year someone else does, and before you know it, it's everywhere, and you've got a sizable business along the beach."

A chunk of that business comes from black henna. Pure henna is brown, and some suppliers plug in a dye to deepen the color. Most of the Oceanfront shops use some form of black henna - at least, that's what they advertise.

Researchers in Germany have found that some people have an allergic reaction to the dye in black henna, which could cause the skin to blister. In severe cases, the kidneys or lungs can be damaged.

Steve Clark, who paints black henna tattoos at a stand on the 2000 block of Atlantic Ave. as "Henna Steve," said he has never had a customer sickened by henna. He has tattooed with the plant for three years, two at the Oceanfront.

"There doesn't need to be regulations," he said. "It's like a face paint or temporary tattoos. Same thing: You put it on, it goes away."

Parrish refuses to touch the black henna. She said customers have entered the store with reddened, peeling skin from the product.

So she tries to educate her customers about henna's history. Sackedis admits to knowing only that henna "looks cool." Parrish hands her a book, "The Timeless Art of Henna Painting."

"Maybe I'm a hippie or whatever," Parrish said. "Henna's not sacred, but it's special. It's ancient."

⁵⁸³ Ben Lloyd. "Tattoo leaves girl burned." *UK Newsquest Regional Press - This is Oxfordshire*. July 2, 2002.

LexisNexis Academic. (accessed April 12, 2013).

“An Oxfordshire mother wants to warn other holidaymakers after a seemingly harmless henna tattoo may have left her daughter scarred. Jackie Giles, 38, and her family recently returned from a holiday in Kenya to find a tattoo had caused a burn on 11-year-old Hannah's back.

“The family, of Lucern Avenue, Bicester, now want to warn other parents to check what ingredients are used before allowing their children to have a temporary tattoo. Mrs Giles said she thought allowing her children to have tattoos, which was done at a beauty salon at their hotel, was a bit of fun.

“But several days after their return to England Hannah complained that the area of skin hurt. It had swollen up and become very red. Mrs Giles took her to the doctor and was told it was a chemical burn.

“She said: “I was so shocked. It's certainly going to take a long time to heal and I'm concerned my daughter may be scarred for life. I thought it was a great fun thing for them to have, but when you get home it's not fun.”

“Mrs Giles believes black hair dye, which includes the ingredient Phenylenediamine (PPD) was added to the henna to make it darker, but PPD can burn the skin, although not everybody will react.

“Real henna tattoos are a brown or orange colour.

“She said: “I really wanted to warn other parents who are expecting natural products to be used. It's quite a serious issue.”

“Her son Ben, eight, also had a henna tattoo, but he has not had a reaction to it.”

⁵⁸⁴ Gerard Burke. “Mum's Anger Over Henna Tattoo Scar.” *Aberdeen Press and Journal*. September 11, 2002.

LexisNexis Academic. (accessed April 12, 2013).

A girl has been left scarred for life from a henna tattoo of a cartoon character she got while on holiday in Spain. Five-year-old Toni Horne has an image of Woody Woodpecker permanently etched on to her skin at her ankle.

The chemical, which the tattoo artist used, turned the henna solution from a natural caramel colour to black, burning her skin in the process.

It is an injury which more and more tourists are falling victim to and Toni's mum, Lydia, is angry that no one in either Britain or Spain warned her of the risks associated with henna tattoos.

Several weeks after her return from holiday in Spain, Toni still bears the scars that show where the caustic henna solution was applied to her skin.

Her doctor believes she has been scarred for life and will bear the image of Woody Woodpecker on her leg for decades.

Mrs Horne said she had not been aware of the risks to young skin from henna tattoos and had received no warning about them from either the streetside tattoo artist or her holiday company. Seven days after they returned from Salou to Elgin, the henna began to disappear and it soon became clear that the skin underneath was itchy and inflamed.

Mrs Horne said: “At first it was like a rash or a burn. It was all itchy and hot so I took her to the doctor.

"He told me that the henna had burned her skin and gave me a steroid cream to calm it down. He said there was no guarantee that she has not been permanently marked.

"Since coming back, I have heard of lots of people who have had problems with henna tattoos. They are not as harmless as people think.

"Toni still cries every night because it is so itchy. At first she wanted a butterfly on her face. Thank goodness I said no to that one and said she could have one on her ankle instead.

"That way it is out of sight instead of having her face disfigured.

"The worst thing is that when Toni went to have hers done, there was a queue of other parents and young children waiting for the same thing." She called on British tour operators and the Spanish authorities to issue warnings to parents about the dangers of henna tattoos to help prevent other children being disfigured.

Mrs Horne added: "If I could get back over to Spain to find the man who painted it on I would have him.

"He knew Toni was five and the doctor says he would have known the dangers."

⁵⁸⁵ Nikki Masters "Child's nightmare of trendy tattoo." *UK Newsquest Regional Press - This is Lancashire*.

September 27, 2002. LexisNexis Academic. (accessed April 14, 2013).

"A DOCTOR has warned of the hidden dangers of trendy henna tattoos after a girl was left scarred by its dye.

"Bethany Ainsworth, five, had to be referred to a skin specialist who did a patch test, It was found she had suffered an allergic reaction to the dye, called paraphenylenediamine or PPD, which can cause severe skin conditions.

"The black dye, also found in hair colourant, was used in the cat tattoo she had done on a family holiday in Alcudia, Majorca.

"It could take up to two years for the scar on her arm to fade and Bethany may have been struck by painful skin problems in the future if the allergy to the potentially harmful dye had not been detected.

"The child's mother, who says their GP was "horrified," by what he saw, has urged the parents of any other youngsters suffering a reaction to a tattoo to seek tests.

"The could pinpoint possible trouble in the future.

"Bethany, a pupil at Baxenden Church of England School, was taken to see her doctor after her arm became red, itchy and warm to the touch 10 days after she had the tattoo.

"Her GP, who at first told her worried mother Elaine he was thinking of sending her to see a plastic surgeon, then made an appointment for her to see a dermatologist after steroid cream failed to stop the redness.

"Today the consultant who treated Bethany revealed the tattoos probably have the "tiniest amount," of henna in them but contained mostly PPD.

"The dye, banned in Germany, can be found as the main constituent in permanent hair colours and PPD is also in some clothing dyes .

"In the UK, any product containing the dye has by law to have a warning label on it. Dr Ian Coulson said: "Bethany's scar will fade but the biggest implication to her is if she ever used a hair dye.

"Had we not patch tested and warned her, she could have got a severe reaction on her scalp." Bethany lives with her mum, sisters nine-year-old Sarah, who also had a tattoo, and Hannah, one, and their mother's boyfriend Ian Livesey in Sedbergh Close, Accrington.

"She had the tattoo, which was meant to last a couple of weeks, done on the last day of their holiday in Alcudia in July.

"Elaine said she allowed Bethany and Sarah to have the tattoos done because she assumed they were just henna and did not foresee any problems because it was a natural dye.

"She said: "Her arm where she had had the tattoo was red and raised. It looked as if somebody had used a laser.

"I tried to touch her arm but she pulled it away and said it was itching. Elaine urged anybody else suffering a reaction after a henna tattoo to see a doctor and ask for tests.

⁵⁸⁶ "The Slopes Don't Have To Be Steep." *The Irish Times*. (October 5, 2002) LexisNexis Academic. (accessed April 14, 2013).

Short-term "henna" tattoos "- which fade after a few weeks and are popular in tourist destinations - are handy for people who like to look radical while hanging out at the Burning Man Festival, but respectable when they return to their job in the bank afterwards. Pure henna tattoos are quite safe, but International SOS has reported increased numbers of adverse reactions from a black dye, para-phenylenediamine, added by some tattoo artists to speed up their work. Reactions can include itchy skin, blisters, permanent scars and even internal organ damage. Australia, Greece, Egypt, India, Turkey and the US have all seen cases.

⁵⁸⁷ Christina Chanes Nystrom. "For artist, skin is canvas; Asian Indian designs in henna adorn hands, body." *Inland Valley Daily Bulletin* (Ontario, CA). April 24, 2003. LexisNexis Academic. (accessed April 14, 2013).

Henna tattoos can come in either black or brown and are made to last anywhere from ten days to three weeks, depending on how long the herbal application is left on the body.

Rupal Shah of Diamond Bar will be featured today at Norco High School's third annual Ethnic Advisory Council Cultural Fair. This will be Shah's second year attending the event where she will work as a henna artist, sharing her love of ancient art and design.

"Shah is usually asked to draw the sun, flowers and mermaids, but she can draw just about anything.

"I really enjoying going to Norco High School because the kids enjoy the designs and because they are temporary, they don't have to worry about them," Shah said. "Many of the kids like to get anklets, armbands or have their bellies, back and hips areas done. They just have fun with it."

"Krupa Javeri of Walnut said that she likes getting the henna tattoo because it reminds her of her home in India and the traditions of her family."

⁵⁸⁸ "Henna Tattoos in Vogue for Summer." *Korea Times*. June 12, 2003. LexisNexis Academic. (accessed April 13, 2013).

For people who cringe at damaging their skin and dyeing it permanently, yet want to look cool for the summer, "henna," a kind of body painting, is an attractive alternative. "Summer is usually the season for henna, but it seems to be even more popular this summer with the recent popularity boom for Indian culture such as yoga and meditation," henna designer Yang Eun-mi at Henna Design, located near Hongik University in Seoul, told *The Korea Times*.

Yang draws for about 30 customers a day. Contemporary designs that look like real tattoos seem to be preferred to traditional patterns from India here. "Butterflies are the most popular design for women. Lizards, which are believed to bring good luck, are also popular," Yang said.

Original henna is brown in color with 100 percent natural ingredients. Black henna with chemical ingredients added to get more vivid color is also available, which more people prefer, but some are allergic to it, according to Yang. Prices are around 15,000 won, varying according to size and design."

Date Accessed: 2013/04/13. www.lexisnexus.com/hottopics/Inacademic.

⁵⁸⁹ Hwang You-Mee. "Pain-free tattoos catching on; Indian mendhi becoming popular body art among Koreans." *THE KOREA HERALD*. (July 14, 2003 , Monday) LexisNexis Academic. (accessed April 13, 2013).

⁵⁹⁰ Lisa Clarke. "The danger tattoos." *Manchester Evening News*. June 20, 2003. LexisNexis Academic (accessed April 13, 2013) <http://www.manchestereveningnews.co.uk/news/greater-manchester-news/the-danger-tattoos-1146618> (accessed September 18, 2013)

BODY art fans are being warned about the potential dangers of some henna 'tattoos' after two victims were left scarred. The scarring is thought to have been caused by an allergic reaction to an imported hair dye used to outline their henna designs.

Navid Ahmed, whose 13-year-old daughter was left with scarred hands and arms following the treatment, said: "I'm angry but more disappointed we weren't aware it was hair dye they were using on the skin. We would not have used it if we'd have known about the dye." However, the first reported reaction to the dye happened last October.

"The whole pattern was like a patterned blister, my arms swelled to double their size," said the victim, who did not want to be named. "I had to wrap clingfilm round my arms to pick my children up. "I tried to speak to people about it but no-one took any notice. It took another poor girl to go through it before anyone did anything.

"Doctors do not know how long the scars will take to fade. They say they could take two years to disappear. I am very bitter and just feel that someone should be held responsible for it."

Decorative henna tattoos are popular among Asian women who have them painted on for weddings or festivals.

Manchester trading standards officers are now making sure the dye, known as 'black henna', which did not comply with cosmetic safety laws, is taken off the shelves and that no more is imported. The city council says customers should always be given a patch test at least 24 hours before the treatment but the second

victim says this is not enough. "A patch test is not always going to work. It takes about a week for the rash and the itching to appear," she said.

Counselor Val Stevens, Executive Member for Planning and the Environment, said: "This product is potentially dangerous. Not everyone will suffer in this way but people who are hypersensitive or allergic to the dye are susceptible, which can be very traumatic for the person affected." The Manchester shop that carried out the treatments is no longer trading. Alison Osman, a henna tattooist at Afflecks Palace in Manchester, urged people to go to an experienced artist and check which products they use.

She said: "It's a lot better to use a natural product." Anyone who has suffered a bad reaction to a henna dye should contact their environmental health department.

⁵⁹¹ Jewell, J., McElwain, L., 2003. Cosmetic Dermatitis From a Henna "Tattoo." *Consultant for Pediatricians*.

Volume 2 - Issue 10 - November/December. <http://www.pediatricsconsultant360.com/article/cosmetic-dermatitis-henna-tattoo> (accessed September 18, 2013)

"A 16-year-old Somali girl presents with a 3-day history of bilateral arm swelling and painful vesicular eruptions; her symptoms are worsening. She reports that 5 days earlier, she and her friends had used henna and black hair dye to "tattoo" their skin. The others have not experienced similar signs or symptoms. This patient has used henna (which is dark red) since childhood for decorative purposes. However, outlining an intricate design with hair dye is new for her.

"The patient has no significant personal or family medical history and is not taking any medication. She arrived in the United States 3 years earlier and has had no health concerns. A review of systems reveals no fever, cough, chills, shortness of breath, or other concerns.

"Vitals signs are not worrisome. The physical examination is unremarkable except for the bilateral upper extremities. The central part of the tattoo is dark red, but not erythematous, warm, or edematous (Figure). Vesicles containing clear fluid are noted at the edge of the design. There is mild to moderate hand edema. Radial pulses are intact. There is no sign of cellulitis, fasciitis, or compartment syndrome. Results of a complete blood cell count are normal.

"This patient is hospitalized and treated for severe cosmetic dermatitis with systemic corticosteroids, diphenhydramine, and daily dry dressing changes. Ibuprofen is instituted for discomfort. Antibiotics are not ordered. The patient remains afebrile and is discharged on hospital day 2 with close follow-up and daily dressing changes. She is advised to avoid contact with all hair-dye products."

⁵⁹² "MP WANTS BODY ART CRAZE TO BE REGULATED." *Birmingham Post*. August 9, 2003. LexisNexis Academic. (accessed April 4, 2013).

Her Bill, to be presented to the House of Commons on September 9, has won Government backing. Ministers are concerned that a loophole in the law allows businesses to operate without any restrictions.

The result is a temporary tattoo which can last up to a month. But there are also serious health risks. Last year five-year-old Toni Horne, from Moray in Scotland, was left scarred for life after a street-artist created a henna tattoo of Woody Woodpecker using toxic chemicals. And Ben Williams, also five, from Middlesbrough, suffered burns from a four inch tattoo of a python.

Both children were tattooed while on holidays overseas with their families, but Ministers fear there is nothing to ensure standards are higher in this country.

Some tattoo artists are believed to use a toxic black henna to speed up the process, which can cause skin reactions.

The increased popularity of tattooing has led to vendors setting up shop in unusual locations, such as night clubs.

⁵⁹³ "ADVISORY - Health Canada alerts Canadians not to use "black henna" temporary tattoo ink and paste containing PPD." *Canada NewsWire*. August 11, 2003. LexisNexis Academic. (accessed April 13, 2013).

Health Canada is advising Canadians that the use of the ingredient para-phenylenediamine (PPD) in "black henna" temporary tattoo ink and paste is unsafe. Allergic reactions to PPD include red skin rashes, contact dermatitis, itching, blisters, open sores, scarring and other potentially harmful effects. Allergic reactions to PPD may also lead to sensitivity to other products such as hair dye, sun block and some types of black clothing.

PPD is an acceptable ingredient in hair dyes that, when used correctly, do not come into contact with skin for prolonged periods of time. The use of PPD in cosmetics applied to the skin for prolonged periods of time poses a risk to the health and safety of the user. As such, "black henna" temporary tattoo ink and paste containing PPD is not considered safe.

Under Section 16 of the Food and Drugs Act, no person shall sell cosmetics that contain substances that may cause injury to the health of the user when the cosmetic is used according to the directions on the label or accompanying the cosmetic. Cosmetics containing PPD that are applied directly to the skin are not to be sold in Canada. This includes "black henna" temporary tattoos containing PPD, which are often sold and applied by artisans at markets, fairs and amusement parks.

Before receiving a temporary tattoo, ask the vendor to confirm that PPD is not being used in the ink or paste. Health Canada permits the use of natural henna and other safe dyes in cosmetics.

Here are some things to look for if you suspect that PPD is being used in "black henna" tattoo ink or paste:
PPD in "black henna" is used for its long-lasting properties and intense black colour. If the formula and resulting tattoo are jet black, the ink or paste may contain PPD;
If the tattoo is to be removed within an hour, the ink or paste may contain PPD;
PPD stains typically last one to three weeks, without fading; and,
PPD-black henna mixes usually have very little or no scent.

Please contact your nearest Health Canada Product Safety Office if you suspect that PPD is being used by a local vendor.

Vancouver, British Columbia, (604) 666-5003 Bby-ProdSafe(at)hc-sc.gc.ca
Calgary, Alberta (403) 292-4677 Cal-ProdSafe(at)hc-sc.gc.ca
Edmonton, Alberta (780) 495-2626 Edm-ProdSafe(at)hc-sc.gc.ca
Saskatoon Saskatchewan, (306) 975-4502 Sk-ProdSafe(at)hc-sc.gc.ca
Winnipeg, Manitoba (204) 983-5490 Mb-ProdSafe(at)hc-sc.gc.ca
Hamilton, Ontario (905) 572-2845 Tor-ProdSafe(at)hc-sc.gc.ca
Toronto, Ontario (416) 973-4705 Tor-ProdSafe(at)hc-sc.gc.ca
Montréal, Quebec (514) 283-5488 Quebec-Prod(at)hc-sc.gc.ca
Longueuil, Quebec (450) 646-1353 Quebec-Prod(at)hc-sc.gc.ca
Québec, Quebec (418) 648-4327 Quebec-Prod(at)hc-sc.gc.ca
Moncton, New Brunswick (506) 851-6638 Atlantic-ProdSafe(at)hc-sc.gc.ca
Halifax, Nova Scotia (902) 426-8300 Atlantic-ProdSafe(at)hc-sc.gc.ca
St. John's, Newfoundland (709) 772-4050 Atlantic-ProdSafe(at)hc-sc.gc.ca

⁵⁹⁴ Marcia Mattson. "Black henna tattoos can cause scarring Health department issues warning." *Florida Times-Union* (Jacksonville, FL). August 20, 2003. LexisNexis Academic. (accessed April 4, 2013).

⁵⁹⁵ Lylah M. Alphonse. "Caution: Black Henna Temporary Tattoos Could Leave Permanent Scars" *Yahoo! Shine / Beauty on Shine* – Tue, Mar 26, 2013 2:41 PM EDT <http://shine.yahoo.com/beauty/caution--some-temporary-tattoos-leave-permanent-scars--184102247.html> (accessed August 12, 2013)

⁵⁹⁶ "Health officials warn temporary tattoos may be harmful." *The Associated Press State & Local Wire*. (August 20, 2003) LexisNexis Academic. (accessed August 5, 2013).

State health officials are warning that popular painted-on "black henna" tattoos - often depicting flowers, daggers and Asian art - may cause allergic reactions capable of leaving permanent scars.

Florida health officials issued an advisory after receiving complaints from the families of three teenage tourists who had bad reactions to the temporary tattoos made of chemically treated "black henna" but often billed as all-natural.

"None of us were really aware at how the black henna was being made with chemicals," Edith Coulter, the health department's tattoo and body piercing specialist, said Tuesday. "I wasn't aware you could drive down in some of the beach areas and see so many signs for these tattoos."

One teenage boy was left with bright red blisters on both arms in the shape of flaming basketballs - resembling the Miami Heat logo - left over from black henna tattoos.

Henna tattoos are painted on the skin with a pen-like tip and typically last three to four weeks. The state warning does not apply to "decal" type tattoos affixed with a cotton ball, which use approved dyes and stay only a few days.

Henna, made from the Lawsonia plant, is used as a hair dye and has been used for centuries in the body-painting art called Mehndi in India and also in the Far East.

The tattoos are commonly offered at many T-shirt shops and souvenir stores on Florida's beaches for about \$10. Tattoo artists on Fort Lauderdale beach say teenage tourists and local young adults are their biggest customers.

⁵⁹⁷ Florida Department of Health, Bureau of Environmental Health, Division of Disease Control and Health Protection. "Black Henna." *Florida Department of Health*. http://www.myfloridaeh.com/community/Black_Henna/index.htm (accessed August 12, 2013)

⁵⁹⁸ Aguilar, Christopher F. "Be safe at the beach; It's more fun with a few precautions." *Florida Times-Union* (Jacksonville). June 5, 2004. LexisNexis Academic. (accessed April 14, 2013).

⁵⁹⁹ Andy Jordan. "Hazards with henna tattoos." *Pulse*. June 23, 2003. LexisNexis Academic. (accessed April 13, 2013).

⁶⁰⁰ Geoff Maynard. "GIRL SCARRED FOR LIFE BY A 'HENNA' TATTOO." *The Express*. August 29, 2003.

LexisNexis Academic. (accessed April 13, 2013).

A GIRL of 13 fears she has been left scarred for life by a roadside tattooist.

Chelsea Elcocks suffered an infection and massive allergic reaction after getting the GBP 2 "temporary" tattoo on her lower back while on a Greek island holiday.

"It hurt so much when he did it I blacked out and I had to be helped to my feet by my friend who had gone with me," said Chelsea. "I could not sit down and I had to sleep on my front and the flight home was agony.

The skin came up in lumps and blood blisters.

"I am terrified that I have been scarred for life. I normally wear short tops but since this happened I have had to wear longer shirts to cover it up."

The schoolgirl might be left with a 4in-wide scar and may need plastic surgery. When she returned to her home in Redruth, Cornwall, she was seen by a doctor who prescribed antibiotics and an antihistamine cream.

She has been warned she has a 99 per cent chance of being permanently scarred.

Her divorced mother, Rachel Sharland, 36, has demanded checks on tattooists in Britain to clamp down on the use of the artificial hair dye that caused her daughter's injuries.

She discovered that scores of people have suffered similar reactions to a chemical in the dye called phenylenediamine or PPD.

Chelsea was on holiday in Crete with her father Linton.

She had already had one temporary tattoo and wanted a fresh one on the last day of her holiday so she could show it off to her friends at home.

"They said it was a henna tattoo and I reckoned it would be all right because henna is a natural substance," she said.

"After I got back I discovered it is not henna at all but some kind of hair dye which is black rather than a natural colour."

⁶⁰¹ Katharine Barker. "Warning follows Scott's tattoo shocker." *Express & Echo* (Exeter). September 2, 2003.

LexisNexis Academic. (accessed April 13, 2013).

A henna tattoo given to a six-year-old city boy as a holiday treat could leave him scarred for life. Christine Yabsley and her husband David of Whipton took their children Scott and Lauren, three, to Tenerife last month.

Both of the children had henna tattoos from a seaside stall at the resort where they were staying. But now Scott has been scarred by an allergic reaction to the henna, which doctors fear could remain for the rest of his life.

Mrs Yabsley, 34, is warning other parents to be on their guard against the tattoos.

She said: "Scott had wanted a tattoo for some time.

"I have them myself and I thought there was no harm in him having a temporary henna tattoo. It was the summer holidays and I thought it would be gone by the time he went back to school." Scott chose a tattoo of a dragon which was about four inches across.

Mrs Yabsley said: "It did not take long to paint the tattoo onto his arm and it was fine to start with. But then when it started to fade four or five days later I noticed that it was raised and Scott complained that the area was itchy." Mrs Yabsley, of Lloyds Crescent, said she took Scott to their family doctor when they got back to England and they were told he was suffering from an allergic reaction to the henna.

She said: "They put him on antihistamines and steroids but they warned us that he could be scarred for life.

"I would warn any parent to think carefully before they allow their children to have one of these tattoos." Scott is not the only one to suffer from a henna tattoo.

In recent years there have been widespread reports of infections, with tourists discovering sores two or three weeks after receiving tattoos because the ink has a delayed reaction. Most sufferers are home by then, which means tattooists are not being taken to task. Some black henna tattoos can include a chemical dye called p-phenylenediamine, which causes the irritation.

The delayed effect is caused by ink sinking slowly into the skin. After the two-to-three week incubation period, blistering and oozing sores can develop.

The British Allergy Foundation says anyone with sensitive skin should avoid the tattoos.

A foundation spokeswoman said: "With the growing rate of allergies that are affecting people, we advise people to proceed with extreme caution and if they think they are slightly allergic they should not go for one at all."

⁶⁰² Joyce Channon, "Mother's Fears Over Toxic Mediterranean Tattoos." *The Cornishman*. September 4, 2003.

LexisNexis Academic. (accessed April 13, 2013).

For although the tattoo at the base of her spine - purporting to be a black henna tattoo - was only intended as a short-term adornment, the youngsters suffered a severe allergic reaction leading to blistering over a large area and now fears that she will be permanently scarred as a result. Her mother, who has asked not to be named, says that she has since discovered that the black stain used by some tattooists is in fact not natural henna at all but a toxic chemical dye - and it can prove deadly.

Since her return to the UK the girl has undergone medical treatment and several weeks later her skin is still inflamed, swollen and probably permanently damaged.

Her mother said: "I was horrified to learn that this chemical dye known as PPD can penetrate deep into the skin and can pass into the blood stream. It is extremely dangerous and once inside the system can result in liver and kidney damage." She says that her teenage daughter has had pure natural brown henna tattoos previously and these had not been a problem, disappearing completely after a couple of weeks.

"What we didn't know is that there is no such thing as black henna and it is widely used on the Mediterranean and probably here too.

"Others should be warned by our own experience and have nothing to do with these potentially very dangerous 'black henna' tattoos" she said.

There is currently a lot of information on the internet about 'black henna' and warnings have been issued against its use.

Advice is also given for people who have had this form of tattooing. Many cases of severe blistering and scarring - possibly permanent scarring - have been reported in recent weeks.

⁶⁰³ "Girl Scarred For Life By 'Fun' Tattoo." *South Wales Evening Post*. September 5, 2003. LexisNexis Academic. (accessed April 13, 2013).

The mother of a 10-year-old Swansea girl claims her daughter has been left permanently disfigured by a rogue body artist in Tenerife. Chloe Webber (pictured) had what should have been temporary fun tattoo designs painted on to the tops of both arms one week into a two-week holiday in the Canary Islands.

She thought the trendy motif worn by celebrities such as Madonna would be "cool".

But just a day after she returned to the UK, Chloe's hand-painted design turned nasty.

The tattoo blistered, bled and burnt her skin leaving her in constant pain.

Chloe, who attends Hendrefoilan Primary School, has now been told she has almost certainly been permanently scarred.

Mum Deana Webber said she had no idea what she thought was a natural product could have such an effect.

"I took her to my local GP as soon as the blistering occurred," she said today.

"The doctor said he thinks the henna had been diluted with hair dye or black henna had been used which reacted with Chloe's skin." Cheaper substances such as artificial hair dye are often added by rogue body artists to the plant-based substance to stain skin a brown colour. Toxic black henna is also sometimes used. However, both substances can cause violent skin reactions.

"It seemed quite innocent at the time but it has just got progressively worse," said Mrs Webber, of Dunvant Road, Killay.

"I just want to warn other parents that these tattoos can be very dangerous." Dr Phillip Evans, a consultant at Swansea's Morriston Hospital, said henna tattooing was fraught with danger.

"Any process of putting a chemical on skin has got the likelihood of causing disfiguration and problems."

⁶⁰⁴ CHARLOTTE DOVEY; LUCIE MORRIS. "SCARRED BY DESIGN." *DAILY MAIL* (London). September 23, 2003. LexisNexis Academic. (accessed April 17, 2013).

CASE STUDY

BEN GIBB, 11, had a henna tattoo done a year ago. His mother, Claire, 47, who lives in Brighton, says:

BEN was on the promenade in Brighton last year with a friend when he saw a woman having an amazing henna design painted on her back.

He thought it looked so great that he decided to have an Arabic sign applied to his arm.

Even though Ben is only 11, the tattooist didn't ask his age or check if his parents had consented to it.

The tattoo, which cost 2, took half an hour to finish because the tattooist kept talking to people. Soon after he left, Ben's arm felt itchy. He scratched the tattoo and it started flaking off and was black underneath. It later turned red and started really hurting. He said it felt like his arm was burning and the whole area was swollen.

I was horrified. Not only had some unscrupulous tattooist taken custom from a child, he had left my son with a tattoo which made it look as if he had been branded with a hot iron.

I took Ben straight to the doctor and reported the trader to the police, but he had disappeared by then.

Ben got some cream from the doctor to stop any infection and was initially in a lot of pain. He has now been left with white lines on his arm. The scar has faded, but there is still a mark and it still hurts when he goes swimming. I hope something is done to stamp out these people who scar children.

CASE STUDY

EMILY WHEELER, aged eight, had her henna tattoo done last month. Her mother, Lorraine Wheeler, 40, from Beckenham, Kent says: TATTOOS are a part of our society nowadays - all celebrities have them, including teen favourites such as Britney Spears and Justin Timberlake. So when we were on holiday in Albir, Spain, I agreed to let Emily have a temporary henna tattoo as a treat.

I expected the flowery band design she chose to fade before the end of the school holidays. Lots of her friends in the resort were having them done, and many of the adults, so I didn't think there were any risks involved.

Although Emily felt no pain whatsoever while having it done, not long after we returned from holiday red spots started to appear on her arm. She complained that the area was uncomfortably itchy and it also started to blister.

By the end of the month, the symptoms were getting worse and I took her to the doctor. That was when we found out she was suffering from a severe allergic reaction. The doctor said if she was slightly older it would have been more likely to have left her scarred for life. Emily is now on antibiotics and her arm seems to be healing. We are yet to find out whether there is any permanent damage. Now I want other parents to be aware that a temporary tattoo might be just as dangerous as a permanent one.

CASE STUDY

Desperate to copy their idols, thousands of children are rushing to have henna tattoos.

Their parents think it's safe, but it can lead to agonising burns and crippling allergies that last a lifetime JADE YATES, aged nine, had a henna tattoo done while on holiday. Her mother, Lisa Yates, 36, a legal executive, from Beckenham, Kent, says: WE WERE on holiday in Kos six weeks ago and Jade was desperate for a henna tattoo from the moment we arrived as most of the other children at our Greek resort had them. Both Scott, my husband, and I knew henna was a natural product which would fade within a couple of weeks, so we conceded.

We took her to a shop in the centre of town, where Jade picked out a tribal symbol to be put on the base of her back - a design similar to those seen on Melanie Chisholm and Robbie Williams. The whole procedure cost e15 (about 12). The artist told us to leave it on for an hour or so, but as it was late, Jade slept on her tummy that night and we washed it off the next morning. After 24 hours, Jade started to complain that it

was itching. The pattern started to blister and weep and the area around the tattoo became inflamed. Five days later, when we were back home, Jade was in tears with the pain so I rushed her into hospital.

The doctors said Jade was suffering from a chemical burn, and prescribed antibiotics.

They also told me that the PPD in the henna would leave her sensitised to many other products. Some suncreams for instance, can cause allergic reactions, as can beauty products and medications. Six weeks on Jade's back is clearing up, but the scar is still very visible. The fun body adornment which should have lasted for a couple of weeks, has become a tribal branding which could be with her for life.

WHAT TO LOOK OUT FOR . . .

HENNA tattooists do not need to be registered, but there are checks you can make: Ask what colour the finished henna stain will be.

If the practitioner says black, do not proceed any further - they are obviously mixing their henna with PPD.

They should not mind answering any questions on the process and should be willing to show you exactly what is in the mix.

Check whether they have public liability insurance - if they do, they are taking their job seriously.

⁶⁰⁵ Sinead McIntyre. "Hidden dangers of tattoos" *Daily Mail*. September 2003

<http://www.dailymail.co.uk/health/article-196628/Hidden-dangers-tattoos.html> (accessed September 15, 2013)

Temporary tattoos could be spreading life-threatening diseases, it was revealed yesterday.

The skin decorations have become a craze among fashion-conscious youngsters after being worn by celebrities such as Madonna, Charlotte Church and Victoria Beckham.

The temporary tattoos, including henna designs, fade after a few weeks.

A micropigmentation machine injects dye via a needle into the surface layers of the skin, rather than deep into the layers as with conventional tattoos.

There have already been safety problems after a number of youngsters were scarred when they had allergic reactions to henna tattoos performed while on holiday abroad.

Now tests have shown that some of the dye, which may have become mixed with blood and bodily fluids, could be tracking back through the needle and into the machinery

⁶⁰⁶ "CELEBRATE CULTURE TO RHYTHM OF UNITY; DAY OF ACTIVITIES TO RAISE AWARENESS AND SHATTER MYTHS." *Coventry Evening Telegraph*. July 20, 200. LexisNexis Academic. (accessed April 4, 2013).

⁶⁰⁷ "HOUSING STAFF RAP WITH TENANTS." *Coventry Evening Telegraph*. March 20, 2004, Saturday.

LexisNexis Academic. (accessed April 4, 2013).

⁶⁰⁸ Aparita Bhandari. "Dimple Shah: Henna Artist: Before coming to Canada from India, Dimple had her own henna art business and some Bollywood clients. 'I was always very creative,' she says." *National Post* (Canada). April 17, 2004 LexisNexis Academic. (accessed April 4, 2013).

⁶⁰⁹ Monica Bhide "The Indian Wedding Feast, a Modern Marvel." *The Washington Post*. May 19, 2004. LexisNexis Academic. (accessed April 4, 2013).

⁶¹⁰ Eileen Daday. "Get me to the mandap on time Indian American couples are looking to incorporate traditions of the motherland while local Western services are scrambling to keep up with the demand." *Chicago Daily Herald*. July 18, 2004. LexisNexis Academic. (accessed April 4, 2013).

⁶¹¹ Lindsay Hawdon. "An Englishwoman Abroad Secrets of the veil revealed." *SUNDAY SUTLEAPH* (LONDON). May 30, 2004, Sunday Date Accessed: 2013/04/14. www.lexisnexis.com/hottopic/academic.

⁶¹² Christopher Aguilar. "Be safe at the beach; It's more fun with a few precautions." *Florida Times-Union* (Jacksonville). June 5, 200. LexisNexis Academic. (accessed April 4, 2013).

⁶¹³ "HEALTH: NATURAL HENNA IS STILL THE BEST; SAY NO IF YOU ARE IN DOUBT." *Birmingham Evening Mail*. July 6, 2004. LexisNexis Academic. (accessed April 4, 2013).

MEHNDI artist Nasreen Rajabali has been warning children of the dangers of chemically enhanced henna tattoos for more than a decade, but stresses pure henna is harmless.

Moseley-based Nasreen sources her henna from Pakistan and mixes it herself, but she says the temptation for a quick fix is proving too much for some henna tattooists.

'It is cheaper to use the ready-mixed tubes,' she says. 'You don't have to spend the time mixing the paste. The life span of mixed mehndi is only three or four days so people would rather just buy a tube - but they can contain all kinds of chemicals, I have even heard of turpentine being added.'

'In these holiday places where someone comes up to you on the beach, it is common practice to use ready-made tubes. And they don't care because if you have problems you won't be able to find them again.'

Nasreen has some advice for people considering a henna tattoo.

'If you do want one, then I would say go to a reputable place where the people do care,' she says.

⁶¹⁴ "More S'poreans undergo laser treatment to remove tattoos." *Channel NewsAsia*. July 6, 2004. LexisNexis Academic. (accessed April 4, 2013).

But these days, many young people are also opting for temporary tattoos like henna tattoos.

"When you feel like you want a new one, you can just add and you can do any design you want," said a teenager.

"Henna tattoo, you can remove it. You just have to wash it," said another.

Zai, who has been a henna artist for more than five years, agrees.

He said: "Lately, a lot of my customers, the young and the much older generation, they are doing the black henna.....the black body dye or the tattoo look-alike, because it's safer, fun and very cool-looking."

⁶¹⁵ Linda Steelyard "I may be scarred for life by holiday tattoo'." *Leicester Mercury*. August 4, 2004. LexisNexis Academic. (accessed April 4, 2013).

Matteo James, 11, was horrified when a large picture of a dragon he had had painted on his upper arm while holidaying in Greece erupted into a mass of painful, weeping blisters. The youngster had an allergic reaction to an unknown ingredient in the black henna paste used to create the tattoo.

⁶¹⁶ Naomi Pylor. "SCARRED FOR LIFE." *Evening Gazette*. August 10, 2004. LexisNexis Academic. (accessed April 14, 2013).

A schoolboy may be left with a grotesque scar for life after having a "temporary" tattoo on holiday. Eight-year-old Max Cashman, from Hartburn, in Stockton, was left with painful weeping sores after suffering a delayed reaction to the henna tattoo.

Black ink used by the artist in Turkey possibly contained a dangerous toxin which is already banned in America. Doctors have now told his devastated parents, Vicky and Jason, that their son will carry the dragon-shaped scar for life unless he undergoes a skin graft.

And today a Teesside consultant advised anyone thinking of having a henna tattoo to have a skin test first to avoid severe allergic reactions.

Fairfield Junior School pupil Max has been unable to join in at playtime because the 10cm by 10cm wound is still very painful.

"We just can't believe it," said 32-year-old Mrs Cashman. "Lots of children were getting them done at the hotel and we never thought it would put him at risk."

The Ravensworth Grove couple agreed to let Max and their other son Luke, 14, receive the black tattoos on offer at their hotel complex at the beginning of their holiday last month.

"The tattooist said they could go back and get it redone if it washed off," said Mrs Cashman.

"So Max went back and got it done again but told me afterwards that it scratched a lot more than the first time and hurt him."

Max's skin began to swell on the way home and Mrs Cashman took him to the accident and emergency department of the University Hospital of North Tees in Stockton.

Two courses of antibiotics failed to reduce the painful swelling and he began to develop lumps in his neck."

The tattoo was really itchy and painful and there was thick, yellow pus soaking through his clothes," said Mrs Cashman.

"I took him back to the hospital and they put him on steroids. The weeping has stopped now but the skin is still badly swollen. "Apparently the inflammation will go down but it will definitely scar."The plastic

surgeon won't see him until the swelling goes down and we will then have to decide whether or not he should have a skin graft."

The Cashman family visited the Atlantis Hotel, in Belek, between June 8 and 22 after booking the holiday with Thomas Cook.

A spokeswoman for the travel company said: "We have every sympathy with the Cashmans."

Occasionally people do have allergic reactions to henna tattoos but we haven't received any other complaints about this tattooist and it was an accident."

Many henna websites warn of the dangers of black temporary tattoos.

Some dyes may include chemicals called P-Phenylenediamine, which is used as a cheap substitute for natural henna.

The websites warn that the ink can cause a serious reaction and the area where the dye is applied can be scarred for life.

Tourists often discover the sores two or three weeks after receiving tattoos. Most sufferers are home by then, which means tattooists are not being held responsible.

Real henna tattoos leave a reddish-brown stain which fades after a few days.

Dr Daron Seukeran, consultant dermatologist at Middlesbrough's James Cook University Hospital, said: "Some substances cause an allergic reaction when put on the skin which can leave scars."

Some black and brown dyes, including some hair dyes, do contain PPD which can cause quite a severe reaction."

The problem with these dyes is you don't know what they contain or which substances they have been mixed with. The best advice for people thinking of getting one of these henna tattoos is to have a skin test between 24 and 48 hours beforehand."

⁶¹⁷ Lara June. Comment, "Henna" *Community-powered support for Thomas Cook*. 2013. <http://customer-community.thomascook.com/thomascook/topics/henna-1d6lk0> (accessed August 18, 2013)

henna

my son has had an allergic reaction to the henna tattoo he had at the tirana aqua park hotel in egypt. I have tried to email and phone but had no reply. \he has hd henna tattoos every single year, 3 or 4 times sine he was 3 so i know it was not he henna....My doctor said this is a clear case to sue as the chemicals are not safe and advised i take photos for evidence - raised, red lumps and itchy skin. he is 8. I wasnt impressed our flights were changed either to monach, so no food or entertainment both ways, but would of let htat go, but the reaction needs reporting as clearly, its not pure henna and needs to be changed.

Response:

"It is unfortunate that your son has had an allergic reaction to the ink used and I do hope that this clears up soon!"

I have spoken to the resort team who have confirmed that we have had no other cases of allergic reactions and I have also checked the feedback on this hotel, again there are no concerns raised regarding Henna Tattoos.

“Whilst we do know that the hotel themselves have someone selling the Henna Tattoos, this is not operated or run by Thomas Cook and if you wish to make a claim this would have to be taken up with the hotel.”

⁶¹⁸ Jane Bradley. "GIRL, 10, SCARRED BY HOLIDAY TATTOO." *Evening News* (Edinburgh). July 29, 2004, Thursday. Date Accessed: 2013/04/14. www.lexisnexis.com/hottopics/lnacademic.

A TEN-YEAR-OLD girl faces being scarred for life by a temporary tattoo she received on a foreign holiday.

Chelsea Lowden, from Musselburgh, had the black henna tattoo painted on her lower back on the Greek island of Zante last week.

Within a couple of hours, the dye disappeared and painful red, swollen blisters appeared in the shape of the design.

Chelsea's mother, Susan, 35, rushed her to the doctor as soon as they arrived home in Scotland last night.

Ms Lowden said she had gone back to tackle the tattoo artist after Chelsea's back began to blister. She said it wasn't anything to do with the tattoo - she told me it must be because Chelsea had been out in the sun, but she'd been wearing a T-shirt the whole time anyway," she said. "I asked her if the dye had chemicals in it because I'd read something about that before, but she said it was only ink and water."

⁶¹⁹ Tom Pegden. "Warning after tattoo horror." *Leicester Mercury*. August 10, 2004. Date Accessed: 2013/04/14. www.lexisnexis.com/hottopics/lnacademic.

Parents of the boys - two brothers aged 12 and 10, and another boy aged nine - say the black henna caused the weeping blisters to appear on their arms. An infection in one of the boy's arms has moved to his lymph node and caused his right armpit, a nipple and neck to swell up.

Last week the Leicester Mercury reported how 11-year-old Matteo James, from Glen Parva, suffered severe blistering from a temporary dragon tattoo he had drawn on his arm on the Greek island of Zante.

Lawrence Chaplin, 12, from Countesthorpe, is going through agony after getting a £21 henna tattoo from a street vendor on Zante two weeks ago.

He said: "I wish I had never had it done. If anyone has one on holiday, don't get a black henna one." His mum, Skye, 30, said: "Lawrence had a dragon and the day he came home he started blistering.

"It got worse and the doctor gave him steroid cream but by last Saturday there was yellow pus coming out.

Aaron Kennedy, nine, from Thurmaston, also suffered blistering after a street vendor tattooed a Celtic band and a shark on his arm in Gran Canaria two weeks ago.

His mum, Annette, 30, said: "He's tried to be brave, but they were very painful. The doctor said only time will tell, but he could be scarred for life.

"We just want families to be aware because there are loads and loads of kids having them done." Both parents fear there may be rogue batches of henna being distributed abroad.

⁶²⁰ Nadeem Hanif "Scarred for life by 'fun' tattoo." *Leicester Mercury*. August 14, 2004 Date Accessed: 2013/04/14. www.lexisnexis.com/hottopics/lnacademic.

Natasha Eastmond, 15, has been left with a permanent eight-inch scar two years after having a henna tattoo while on holiday in Greece. Chad Faulkner, 14, told how he could be scarred for life after a reaction to a tattoo on his shoulder left his arm red and blistered.

They came forward after the *Leicester Mercury* reported how four boys had suffered burns and scars after holiday henna tattoos.

Pure brown henna paste, commonly used for temporary tattoos in the UK, rarely causes allergies.

However, black henna tattoos abroad, where controls are less strict, can have the chemical phenylenediamine added which can trigger an allergic reaction.

Riverside County College pupil Natasha was just 13 when she decide to have her lower back tattooed during a family holiday in Xanthi.

However, just hours after getting a Celtic band tattoo, the affected area became itchy and painful.

Natasha, of Blackmore Drive, Braunstone, said: "About a day later, it began to blister and to swell so much you could see it through my shirt. It was difficult because it was on my back so I couldn't lie down properly. I got the tattoo done a week into our two-week holiday and it ruined the rest of my stay.

⁶²¹ "Misled over how safe tattoos are." *Leicester Mercury*. August 27, 2004. LexisNexis Academic. (accessed April 14, 2013)

⁶²² Lisa Jones. "BLISTER WARNING." *South Wales Echo*. August 31, 2004. LexisNexis Academic. (accessed April 14, 2013).

'TEMPORARY' STREET TATTOOS SCAR CHILDREN:

Children have been left scarred by fashionable 'henna' tattoos applied in a city centre. Trading Standards officers confiscated dyes and materials from a street trader in Cardiff following complaints from members of the public that their children's skin had blistered after receiving one of the popular temporary tattoos.

A warning has been issued after children were left scarred by fashionable 'henna' tattoos. Dyes containing harmful chemicals have been confiscated from a South Wales street trader after parents complained their children's skin blistered after receiving the temporary tattoos.

⁶²³ "Vital: Ask the Doc; Craig Lennon our GP Expert will answer your questions every week." *Daily Record*. January 18, 2005. LexisNexis Academic. (accessed April 14, 2013).

Q I HAD a henna tattoo done when I was on holiday, but it has left my skin itchy and scarred. What can I do to ease it?

A WAS it a black henna tattoo? Pure henna stains the skin reddish brown and is unlikely to cause a skin reaction.

But black henna is produced by adding PPD, also found in some black hair dyes, which many people are allergic to.

A high concentration of PPD in the tattoo may lead to scarring. Put moisturising cream on the area and antihistamine or mild steroid creams from the chemist if need be. Ask your pharmacist about scar-reduction plasters - they are expensive but effective.

⁶²⁴ Susan H. Johnson. "PULSE." *Tampa Tribune* (Florida). March 13, 2005. LexisNexis Academic. (accessed April 14, 2013).

Black-Henna Tattoos May Harm Skin

The Pinellas County Health Department is warning students on spring break to think twice about getting black-henna tattoos.

Black-henna tattoos are popular with vacationers and students who visit Pinellas beaches but can cause mild to serious allergic reactions and skin problems, the department said.

An ingredient in black henna ink-- p-phenylenediamine, or PPD — is approved as a hair dye but not for direct application to the skin.

For information or to report possible reactions to black-henna tattoos, call the department's Environmental Health Division at (727) 507-4336.

⁶²⁵ Judy Siegel. "News in brief; Health Ministry: Avoid black henna." *The Jerusalem Post*. June 9, 2005. LexisNexis Academic. (accessed April 14, 2013).

Temporary tattoos using black henna can cause a serious allergic reaction, the Health Ministry warned on Wednesday. Ordinarily, henna is red, made from plant extracts. But some people add black chemical pigments, which can be harmful when they come into contact with the skin. If black henna tattoos cause redness, inflammation, itching or sores on the skin, the ministry said, one should go to a dermatologist. Better yet, avoid temporary tattoos, especially black ones, the ministry advised.

⁶²⁶ "Henna tattoos grow in popularity in Atlantic Beach, N.C." *The Daily News*, Jacksonville, N.C. July 23, 2005. LexisNexis Academic. (accessed April 14, 2013).

Henna tattoos are popular this summer at the Beach Mart in Atlantic Beach.

It's the same story at similar shops up and down the East Coast, for that matter.

Beach Mart manager Roberta McMurtrey wants customers who leave her store with an image of a dolphin on their ankles or a butterfly on their backs to be satisfied with the temporary tattoo. So she was glad to post a consumer advisory issued this week by the Carteret County Health Department regarding possible adverse reactions from the application of those marketed as "black henna tattoos."

Black henna may contain a chemical called paraphenylenediamine -- PPD, for short. This chemical, commonly used in commercial hair dyes, can cause severe skin irritation in some people. The health department advisory notes that individuals who suffer from allergies, are allergic to commercial hair dyes, or know they are allergic to PPD may risk a severe reaction.

McMurtrey said the henna tattoos sold at her store don't contain PPD, but they do mix the henna with a developer for commercial hair dye, which can be sensitive to some people. She regards the health department's advisory as an educational tool, preferring informed customers, she said, to disappointed buyers who didn't know there are potential side effects.

"I want everyone to be upfront and know what's involved," McMurtrey said.

The dozen or so other stores in Carteret County known to sell henna tattoos have also agreed to post the health department's advisory, said environmental health specialist Laura Gammons. All the places she knows of that sell them are located in the beach towns along Bogue Banks. The health department last issued the same consumer advisory in 2002.

Officials thought it was time to do so again after at least three recent complaints from parents whose children had experienced reactions after getting a tattoo containing PPD.

Officials in Onslow County are aware of the warning issued just one county over, but they've received no consumer complaints to date, said Jon Harrison, Onslow's director of environmental health. Still, to stay informed, Harrison has been researching the subject online, he said.

A Google search of "henna tattoo" reveals numerous testimonies by henna lovers and catalogs featuring photos of celebrities -- from Madonna to Elijah Wood -- adorned with intricate patterns and earthy henna hues. Local merchants say the craze isn't confined to celebrities.

"I'd say it's a pretty popular item," said Gina Howard, an assistant manager at Wings surf shop in Surf City. "We've done it for the last couple of years."

But using the ground-up leaves of the mehendi plant as a temporary tattooing agent extends at least 5,000 years prior to its discovery by the likes of the Material Girl, according to www.naturalexpressions.org, an online henna advocate.

Henna art is made by grinding the mehendi leaves and applying the sediment either by itself or in a mixture to the skin. When the matter is removed a temporary image remains for a few days, or a few weeks, depending on the mixture used. Unlike conventional tattooing, where pigment is injected into the dermis, the colors applied with henna tattooing wear off as the skin naturally exfoliates.

Carteret officials want the public to be aware that skin reactions such as itching, swelling and blistering can occur as a result of the chemical sometimes used in the tattoos.

McMurtrey said she'd rather not see that happen.

"We want (customers) to leave happy and three or four days later still be happy," she said.

Unlike traditional tattoo parlors, the henna trade is not a regulated, Gammons said. Therefore, the consumer advisory is the health department's best option for educating the public.

"It's strictly a buyer-beware situation," she said. And while there haven't been a large number of reported problems with henna tattoos, Gammons said, there may be some cases where people experience a problem and don't report it.

The Carteret health department received 11 reports of reactions in 2002, two in 2003 and none in 2004.

⁶²⁷ Sam Marsden. "HENNA TATTOO 'BURNED' HOLIDAY BOY, 8." *Press Association*. August 17, 2005.

An eight-year-old boy needed hospital treatment after suffering an allergic reaction to a henna tattoo on holiday.

Nathaniel Fuller developed a painful chemical burn on his back when he reacted to the dragon tattoo he had done at a seafront stall in St Ives, Cornwall.

His father Stephen Fuller, from Hull, told the BBC he was "very angry" the tattooist had not alerted them to the risk.

He said: "Basically we were given no warnings by the street trader about any reactions or anything that Nathaniel might react to.

"We were not asked if he had any allergies to any of the products she was using.

"I feel an irresponsible parent, as I'm sure anybody would, because obviously we were making those decisions for our children based upon their age."

The stallholder, who has not been named, said she offered parents an allergy test for their children but they often declined.

She told the BBC: "If it's young girls that have had their hair dyed or adults then you don't often see anything because it's natural henna, which people can't be allergic to.

"It's just the dye in it, that's where the allergy can come up."

She went on: "I don't know in this particular case if I did ask the parents if the child did have allergies, but I definitely would have mentioned something, and I hope he gets better."

Natural henna is an orange-brown colour, but hair dye is sometimes added to make the tattoo black and can cause severe allergic reactions.

⁶²⁸ "Tattoo allergy causes concern at St Ives." *The Cornishman*. August 18, 2005. LexisNexis Academic. (accessed April 14, 2013).

The trader who applied Nathaniel's tattoo said that hair dye is added to the natural henna to make it black and last longer, but said there is a warning on price boards.

She added that parents of children who want a tattoo are offered an allergy test, but only about 40 per cent do so.

The woman, who did not want to be named, said: "Henna comes in red and brown and to get it any other colour you need to mix it. Natural henna comes from a plant, so people are not getting allergies from henna, but from the dye," she said.

Simon Mansell of Penwith Council said that there were health and safety concerns, but that said the council had no powers to regulate the street traders who operate under 'pedlars' licenses provided by the police. Artists trading in the town say they do warn people about allergic reactions to the chemical dyes they add to the henna.

⁶²⁹ Sarah Dunn. "BOY SCARRED BY TATTOO." *Doncaster Free Press*. September 8, 2005 LexisNexis Academic. (accessed April 14, 2013).

THIS is the horrific result of a holiday treat that could leave an eight year-old boy scarred for life. Now Owen Gillvray's mum Dawn wants to warn other mothers about the potential risk of henna tattoos after the design on his back became blistered and infected - and doctors told him that he would be permanently scarred. He may have to have a skin graft, although doctors cannot yet tell exactly how serious the scarring will be.

Sunnyfields Primary School pupil Owen was on holiday in Malta with his mum, dad Martin, older brother Ryan, ten, and little sister Lauren, five, when he and his brother and sister decided they each wanted a henna tattoo from one of the street artists working there.

The two boys had dragons drawn on their back, and Lauren, her name written with a love heart. Dawn explained: "Everything was fine at first - they each had them done and they were fading lovely with the salt water and the sunshine. We would see the man that did it each night as we walked through the square and he told them to come back the day before they left and he would colour it in for them. He said he would do it for half price and it would make them last longer."

So this is what they did. But whilst waiting for their flight home Dawn began to notice something was wrong with Owen.

She said: "He was complaining that he didn't feel well and looked as white as a sheet. We just thought it might just be tiredness."

But when they arrived back home in Stonehill Rise, Scawthorpe, she looked at his back and could see that it something much more serious.

"He kept moving his shoulders as if something was bothering him and I knew before I even lifted his top up that something was wrong because the pus had soaked through the shirt. When I did have a look I could see that all the skin was raised with blisters - it looked as if he had scolded."

Initial advice from the doctors was to apply germoline cream but when after a few days the situation was getting worse rather than better Dawn decided to take him to the A&E department at the hospital. Since then they have had to return every two days to get the dressing changed.

He was also given a course of anti-biotics and told to take anti-histamine to try and kerb the itching.

Doctors have warned that the injury will most likely leave a permanent scar over his back. Dawn added: "One of the doctors even asked me if I had checked that the needles used were clean - he was shocked when I told him that no needles were used at all, it was meant to be just like a painting."

It seems likely that the cause of the reaction was not the henna itself - a completely natural substance to which very few people are allergic to - but a chemical called para-phenylene diamine (PPD) which is sometimes added to make the tattoo darker. Indeed, Dawn said that the picture on Owen's back was a black colour, rather than the reddish-brown it should be.

Most professional salons in Europe and America use pure henna, but people getting them done by street artists or back street shops, where the controls are less strict, are at greater risk.

Speaking about her son Dawn added: "He has been fantastic, soldiering on and being really brave - though I think it's going to hit home when he can't play for his rugby team or go for his swimming lessons. It's me that has been the most upset - I feel really guilty but also angry at the man that did it."

She now plans to write to the Maltese tourist board with photographs about what has happened and hopes to get the man checked out to make sure he is working with a licence.

And she said: "I want to warn other mums about what could happen - it's just not worth it."

⁶³⁰ "Toxic tattoo warning from sick Bali tourist." *The West Australian* (Perth). June 20, 2005. LexisNexis

Academic. (accessed April 16, 2013).

People holidaying in Bali are being warned about the dangers of toxic henna tattoos, after a 21-year-old Perth man spent 10 days in hospital suffering from a severe allergic reaction.

Brett Paterson and six friends suffered reactions ranging from mild itching to severe rashes all over their bodies after returning from Bali a few weeks ago.

Doctors said it appeared the men reacted to what were known as black henna tattoos which could contain the toxic dye para-phenylenediamine, or PPD. The dye was used by some tattooists in Bali to produce a black stain which lasted on the skin for several weeks.

In Australia PPD is banned for use in skin colouring products such as tattoos but can be used in hair dyes provided there is an explicit warning about the risk of skin irritation or manufacturers sell it as a Schedule 6 poison.

Mr Paterson, who works for a Canning Vale air-conditioning company, was among a group of 10 Perth men who had the henna tattoos at the same stall while holidaying in Bali late last month.

By the time they were on their flight back to Perth, some were complaining of itchiness and by the time they were home seven had suffered allergic reactions.

Mr Paterson, who had four tattoos across his forearms, was the worst affected, with a rash and swelling which quickly spread over his whole body, including his face.

After his condition worsened, despite several visits to his GP, he was admitted to Royal Perth Hospital where he spent 10 days receiving intravenous antibiotics and steroid medication.

"Everyone has the tattoos done when they go to Bali and in the beginning when some dots appeared I thought it was just a temporary thing but then my arms started swelling," Mr Paterson said.

"Then a rash appeared all over my body like it had been dipped in boiling water and that was pretty scary."

Mr Paterson, who was still nursing red and peeling arms this week, said it was his first trip to Bali and while he would happily return there, he would not be tempted to have any more tattoos.

"I wouldn't recommend them," he said.

⁶³¹ "My henna horror." *Western Daily Press*. August 29, 2005. LexisNexis Academic. (accessed April 16, 2013).

A teenage girl was scarred for life after having a 'harmless' henna tattoo while on holiday, it was revealed last night. Football-mad Polly New, 14, begged her parents to let her have the temporary tattoo on her back while on holiday in Majorca. But the day after Polly had the £7 design of her initials done by a beach-side tattoo artist, her back developed a lump the size of a rugby ball, leaving her crippled with pain.

Polly's henna disaster comes just days after the *Western Daily Press* revealed the harrowing story of eight-year-old Nathaniel Fuller, who also needed hospital treatment after being painted with one of the potentially dangerous tattoos.

Yesterday Polly's horrified parents, Martin and Sarah, 41, warned others of the perils of temporary henna tattoos.

Operations manager Martin, 43, said: "Polly begged us to let her have it and I wanted to treat her.

"The woman told us it was 100 per cent safe and we trusted her. But Polly's back just came up. It was so badly burned. It was so painful for her. It was heartbreaking.

"I want to warn other parents not to let their children have these tattoos.

"They are not safe. Polly will be left with the scars for years." Chelsea fan Polly had the tattoo done the day before she returned home after a two-week holiday in Calador, Majorca.

The family had treated themselves to the trip with friends following mum Sarah's treatment for breast cancer.

Just hours after the 8in by 10in design was done, Polly started to feel sick and her back began to burn and swell.

By the time she returned home to Lechlade, Gloucestershire, the lump on her back was still the size of a rugby ball and her worried parents rushed her to the Great Western Hospital in Swindon.

Doctors were so horrified by the reaction, covering Polly's back and buttocks, they admitted her immediately.

Polly spent four days in hospital and had to be treated with steroid injections and painkillers.

The bubbly teenager still suffers constant pain from the allergy and will have to endure further treatment over the next six months.

She said: "It's still really painful and I have been stuck inside since we got back from holiday.

"I haven't been able to see my mates or play football and I can't even lie down properly.

⁶³² Macneil, Jane Salodof. "Henna Tattoos Can Trigger Allergy to Hair Dye Later On." Family Practice News.

February 15, 2006. LexisNexis Academic. (accessed April 16, 2013).

"All these little kids who become allergic to their henna tattoos will not be able to dye their hair permanently again," Dr. David E. Cohen said at the Winter Clinical Dermatology Conference, Hawaii, where he announced the selection.

Dr. Cohen, director of allergic, occupational, and environmental dermatology at New York University School of Medicine, said the dubious honor is designed to draw attention to allergens that are very common and/or underrecognized and merit more attention because they are causing significant contact dermatitis.

As the society's presentation on paraphenylenediamine has not yet been published, he gave his views on why physicians need to be more aware of its effects.

Paraphenylenediamine is well known as an allergen that can provoke reactions to permanent hair dyes, according to Dr. Cohen. The heightened sensitivity brought on by its use in temporary henna tattoos is a newer phenomenon.

Distinguishing ceremonial tattoos from the darker temporary products sold in this country, he said henna is safe as used in India and other traditional societies.

"Those [ceremonial tattoos] are pure henna tattoos, but the black henna tattoos are compounded with paraphenylenediamine to get the darker color and to get more endurance," he explained in an interview at the meeting, which was sponsored by the Center for Bio-Medical Communications Inc.

⁶³³ Klaff, Lynne. "Henna tattoos rich with story, artistry - and a hit with teens." *TELEGRAM & GAZETTE* (Massachusetts). July 17, 2006. LexisNexis Academic. (accessed April 16, 2013).

⁶³⁴ "Skin art need not be permanent." *Evening Herald* (Plymouth). August 21, 2006. LexisNexis Academic. (accessed April 16, 2013).

⁶³⁵ Hecht, Dr. "Ask Dr. H." *Knight Ridder/Tribune*. April 25, 2006. LexisNexis Academic. (accessed April 16, 2013).

Q: I was at a weekend festival that had a henna tattoo artist. I thought it might be fun to get a henna tattoo, since they're not a permanent tattoo. My girlfriend who was with me talked me out of it because she said that it might make you allergic to hair dye. Is that really true? _K.A., Santa Rosa, Calif.

A: Yes, but only if those tattoos are black in color. That's because some folks doing henna tattoos are mixing in black hair dye that contains paraphenylenediamine _ "PPD" for short. Pure henna tattoos are typically green, the color of the powdered henna leaves (natural additives may be combined to make it yellow or orange).

Why would one add black hair dye to a henna tattoo? It gives the tattoo a much darker appearance, speeds drying and makes the tattoo last longer. The problem is that PPD in the concentrations used for tattoos can trigger an allergic reaction on the skin that may make you highly allergic to PPD dye forever. If that occurs, you'll forever be allergic to all dark hair dyes _ anything that contains the PPD compound.

The bottom line: Natural henna plant dye is generally quite safe, but stay away from black henna tattoos.

⁶³⁶ Joyce Siu "Faking it." *South China Morning Post*. July 2, 2006. LexisNexis Academic. (accessed April 16, 2013).

"Temporary tattoos are easy to make. All you need is patience and steady hands," said Chow, who creates temporary tattoos for movies and children at street carnivals.

For DIY tattoos, Chow recommends using Amunez, a dye from Australia.⁶³⁶ "Henna fades to a light brown or orange colour. But Amunez is solid black and looks more like a real tattoo," she said.

Other colours of Amunez, such as blue, red, green and purple, are available. But these are not as long lasting as black, says Chow.

Amunez usually lasts for seven to 14 days. If you want it to last longer, avoid washing the tattoo with soap too often.

Chow also warns against using the dye on sensitive or broken skin.

To share the fun of DIY temporary tattooing, Chow holds courses on Sundays at her studio in Central. The course costs \$580 per person or \$464 each for a group of three.

⁶³⁷ Amunez. AMUNEZ TEMPORARY TATTOO - Price List. December 2006.

http://web.archive.org/web/20061206064750/http://amunez.com/Amunez_PriceList.htm (accessed September 2, 2013)

Amunez Paint Ingredients: ethyl cellulose, methosulfate, titanium dioxide, distearoylethyl hydroxyethylmonium, methylparaben, cetearyl alcohol, cetareth-20, p-phenylendiamine (2.94%), and may contain: iron oxide, C11623, C115510, C145410, C144090, C142510, C111055, C156059, C112719, carmine, 4-hydroxypropylamino-3-nitrophenol.

POISON. This product is not edible. It should be noted this product, like many others for skin application, can with people with sensitive skin, cause allergic reactions to some skin types.

⁶³⁸ "We guess that's why they call them the blues...?" *Nottingham Evening Post*. August 25, 2006. LexisNexis Academic. (accessed April 17, 2013)

Despite responding well to a 48-hour product test, Kyle Shaw has ended up with the word Chelsea in angry red after what was meant to be a holiday treat in Portugal.

His mum Helen Shaw, 53, from Clifton, said: "I just think it's worth warning other parents who are going on holiday with their kids.

"I've read about henna tattoos before and so he had a skin test first and we waited 48 hours.

"That was fine so he had Chelsea written across his stomach."

⁶³⁹ HOMAKHALEELI "Danger warning from skin expert." *Liverpool Daily Echo*. September 22, 2006. LexisNexis Academic. (accessed April 17, 2013)

Earlier this month the ECHO highlighted the dangers of the supposedly-temporary tattoos when a 14-year-old boy was left blistered and swollen by one in Majorca.

Now the family of a second boy, Gareth Griffin, 12, has revealed how he feared he could be scarred for life by the dye.

He was left in agony after having a stencilled pattern put on his arm while on holiday in Cornwall. He needed hospital treatment for his weeping wound.

Skin consultant Dr Niall Wilson from Broadgreen hospital said the designs can cause long-term harm.

He said: "This is not something I would let my eight-year-old have done. Henna itself is a vegetable dye and unlikely to give you an allergic reaction.

"But it can be mixed with a chemical found in hair dye and people can have a very bad reaction to it.

"As well as causing blisters at the time, it can make you sensitive to the chemical if you ever come into contact with it again.

"It can cause permanent discolouration of the skin so you can end up with a permanent tattoo.

"At the moment there is no regulation for these sorts of tattoos."

Gareth, from Hereford Avenue, Great Sutton, had the tattoo done at a market stall in Padstow while on holiday on September 3.

Three days later the skin of the Bishops CE high pupil began to burn and the family took him to hospital.

Doctors told his father that Gareth had chemical burns. Later his skin broke into blisters and fell off.

His father Steven, a Kwiksave manager, said: "He was in a lot of pain and very upset - he kept asking if it was going to be scarred.

"The doctors at the hospital in Cornwall said this is happening more frequently.

"Now he's left with white burn-marked skin where the tattoo was and we are hoping he won't be scarred for life."

⁶⁴⁰ Kibret Marcos. "Scarred children; Two North Jersey families are suing over permanent marks their kids got from temporary tattoos." *The Record* (Bergen County, NJ). January 5, 2007. LexisNexis Academic. (accessed August 30, 2013).

On a family vacation last summer, 8-year-old Michaela Reilly of Old Tappan went with her father to get a temporary tattoo at a body-art shop on Long Beach Island.

The line of three dolphins on her lower back, drawn with black henna, faded within a few days, like it was supposed to. A few weeks later, however, her back was covered with blisters.

"It was red and nasty," said Maerose Ludlum, Michaela's mother.

After several treatments, the girl was left with what doctors deemed a permanent scar — in the shape of three dolphins.

"Thank God she didn't get a tattoo on her neck, or someplace else where the scar would have been visible all the time," Ludlum said.

An attorney for the Reillys and another North Jersey family filed a lawsuit Thursday against a national black henna distributor they say is responsible for their children's permanent scars.

Both families say lawsuits are the only means, in a business largely unregulated by state or federal laws, to protect youngsters and other customers who get the popular drawings every year at tattoo shops, boardwalks, carnivals and other venues throughout New Jersey.

"We are trying to hold this company accountable for its adulterated products," said Rosemarie Arnold, a Fort Lee attorney representing the two families. "This lawsuit hopefully will serve as a warning to the general public against the dangers of black henna."

With temporary tattoos, a hard-staining paint is applied to the skin. Unlike a real tattoo, they don't involve skin-piercing and fade within a few weeks.

Cheaper and less painful than real tattoos, temporary tattoos are popular among children — who are not allowed by law to be tattooed — and among many adults who aren't ready to commit to a permanent tattoo, said Dean Carneccchia, manager of Lola's Tattoos on East Main Street in Bogota.

Henna has been used for hundreds of years for body decoration in India, Pakistan, the Middle East, the South Pacific Islands and other parts of the world, Carnecchia said. The reddish-brown coloring, made naturally from a plant, is purely organic and often causes no problems to the skin, he said.

In the United States, where black tattoos are much more popular than brown or reddish brown ones, distributors and some tattoo artists add black coloring chemicals to the henna, Carnecchia said. The added chemical also allows the tattoo to dry faster and last longer, he said.

But some of these ingredients — such as the "coal tar" coloring legal for use only in hair dye — have been known to cause allergic reactions leading to permanent scarring.

"Some tattooists use hair dye to turn the henna black, and that can cause skin problems," Carnecchia said.

David Bikoff, a Hackensack plastic surgeon, said he is treating an increasing number of patients injured by temporary tattoos over the past five years.

Although they "are getting more and more popular," Bikoff said, "I would caution that there is a risk of permanent scarring.

"That has to be considered when anybody allows their child to use one of these," he said.

Michelle Lolk and her two young children know such trouble firsthand.

Lolk, of River Edge, took her 6-year-old daughter and 8-year-old son to a tattoo shop this past summer for their first-ever temporary tattoos. Young Ethan got a cross on his arm. His sister, Olivia, got a dolphin on her belly.

A day later, Olivia complained of severe pain.

"It looked like she was branded with a poker," Lolk said.

A photo taken several weeks after the tattoo wore off shows a bright red welt on the girl's belly in the shape of a dolphin.

A few days later, Ethan had a similar reaction, Lolk said. Dermatologists and plastic surgeons have said the damage is permanent, she said.

"I don't understand how they could do this and get away with it," the upset mother said.

The New Jersey Department of Health regulates tattoo artists, enforcing the guidelines on running an establishment as well as the health and safety requirements for performing body art.

"Body art" includes tattooing, piercing and permanent cosmetics. It doesn't include temporary tattoos: Anyone can draw a temporary one on themselves or others without a need for licensing or certification.

"There is no legislation requiring us to regulate temporary tattooing," department spokesman Nathan Rudy said. "At this time, it is not seen as a public health issue."

The federal government doesn't regulate temporary tattooing, either. The Food and Drug Administration has received numerous reports of allergic reaction to temporary tattoos but doesn't keep statistics on the number of injuries, said FDA spokeswoman Heidi Rebello.

The agency has issued a warning that it is illegal to distribute adulterated products, although the meaning of "adulterated" has proved elusive, at least in some cases.

One controversial product is "Super Black Henna Powder," distributed by Ronald Wells of Coral Springs, Fla. Wells' company, Black Henna Ink Inc., is the main defendant in the lawsuit filed by the Lolks and the Reillys.

"This product is in serious violation of the Federal Food, Drug, and Cosmetic Act," reads an August 2006 letter by the FDA, addressed to Wells. The letter warns Wells to correct the violation or face sanctions, including seizure of the product.

Wells disputes the FDA's findings. Maintaining that his product isn't adulterated, he still offers black henna for sale on his company's Web site.

"That letter is 97 percent incorrect, and I am challenging them," he said, refusing further comment.

FDA officials also declined to comment, saying the inquiry is continuing.

Arnold predicts the issue won't be as controversial when her clients' case gets to a jury.

"We have three children with permanent scars to their bodies," she said. "We know the product is adulterated."

Because their lawsuit involves product liability, the plaintiffs are subject to a lower standard of proof, requiring them to show only that they suffered injuries from a defective product — regardless of whether the distributor can be shown to be negligent or reckless.

"I don't know what's in the product," said Arnold, who filed the lawsuit in Superior Court in Hackensack. "But I know that all my clients went to get temporary tattoos and [instead] got permanent scars."

⁶⁴¹ FDA. "Black Henna Ink, Inc." August 14, 2006. *FDA U.S. Food and Drug Administration. Department of Health and Human Services. Inspections, Compliance, Enforcement, and Criminal Investigations*. Accessed September 2, 2013. <http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2006/ucm076032.htm>

Black Henna Ink, Inc. 14-Aug-06
Department of Health and Human Services' logoDepartment of Health and Human Services

Public Health Service
Food and Drug Administration

555 Winderley Place, Ste. 200
Maitland, FL 32751
Telephone: (407) 475-4700
FAX: (407) 475-4769

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

WARNING LETTER
FLA-06-32

August 14, 2006

Mr. Ronald I. Wells
Black Henna Ink, Inc.
9861 West Sample Road #196
Coral Springs, FL 33065

Dear Mr. Wells:

This letter concerns your firm's sale and distribution of your product "Super Black Henna Powder" (also referred to on your Internet web site, www.blackhennausa.com, as "Black Henna Tattoo Powder"). According to statements on your website, your product is sold for use as a temporary tattoo; that is, it is intended to temporarily color the skin in a decorative fashion. This product meets the definition of a cosmetic in section 201(i) of the Act because it is intended to be applied to the human body for "cleansing, beautifying, promoting attractiveness, or altering the appearance." This product is in serious violation of the Federal Food, Drug, and Cosmetic Act (the Act). You can find the Act and regulations on the FDA website at www.fda.gov.

Your product is adulterated under section 601(e) of the Act [21 U.S.C. 361(e)], in that it is a cosmetic and it bears or contains a color additive that is unsafe within the meaning of section 721(a) of the Act [21 U.S.C. 379e]. Recently, FDA collected a sample of your product. FDA analysis found the product contains approximately 28% of the color additive p-phenylenediamine (PPD). A color additive is deemed to be unsafe within the meaning of section 721(a) unless there is in effect, and the additive and its use are in conformity with, a regulation listing the color additive for such use. There is no regulation listing the color additive p-phenylenediamine as safe for use in coloring the skin.

We request that you take prompt action to correct these violations. Failure to properly correct these violations may result in enforcement action without further notice. The Act provides for the seizure of illegal products and injunctions against the manufacturer and/or distributor of illegal products.

Please notify this office in writing within fifteen (15) working days of the receipt of this letter as to the specific steps you have taken to correct the stated violations, including an explanation of each step being taken to identify violations and make corrections to ensure that similar violations will not recur. Include any documentation necessary to show that correction has been achieved. If the corrective action cannot be completed within 15 working days, state the reason for the delay and the time frame within which the corrections will be implemented.

Your reply should be sent to the attention of Shari H. Shambaugh, Compliance Officer, U.S. Food and Drug Administration, 555 Winderley Place, Suite 200, Maitland, Florida 32751.

Sincerely,

/s/

Emma R. Singleton
Director, Florida District

⁶⁴² Kibret Marcos. "Scarred children; Two North Jersey families are suing over permanent marks their kids got from temporary tattoos." *The Record* (Bergen County, NJ). January 5, 2007. LexisNexis Academic. (accessed August 30, 2013).

⁶⁴³ Barefootgirl. Comment, "this web site selling black "henna," posted to the *The Henna Page Discussion Forum*, June 11, 2011.

Re: this web site selling black "henna"

I checked out the site and emailed her asking her what was in her henna. Here's her reply:
BLACK HENNA KITS, INC.
www.blackhennakits.com

Dear Donna,

Thank you for your interest in our products. Most people concerned about our ingredients really want to know as to whether we use the chemical additive Para-phenyldiamine in our product. I can well understand your concern. In answer to that question, any black henna product that advertises lasting 2-3 weeks, must have a chemical dye additive. This can consist of para-phenyldiamine, m- phenyldiamine, d-phenyldiamine, with the most prevalent in use being PPD or para-phenyldiamine. Our company uses only cosmetic grade of PPD in our product. These products are used in every permanent hair dye manufactured in the world today. There is no known scientific evidence proving that they are hazardous to your health when used to dye your hair or in a temporary black tattoo.

PPD has gotten a bad rap from numerous web sites and other media who quite frankly have no idea in the world what they are talking about. They misquote, take information out of context, make false claims, deceive through smoke and mirrors, and flat out lie. Meanwhile, everyone should know that a small number of people may develop an allergic reaction (contact dermatitis) from PPD. This, if treated immediately (use of cortisone cream and, if itching occurs, use over the counter Benadryl) will generally resolve the problem. In rare cases, the allergic reaction may require seeing a physician who generally prescribes a stronger steroidal cream. The only problems we have ever seen were from people who told us they didn't treat it promptly. Or they scratched it profusely, irritated it, and then developed a secondary infection. Individuals who have determined they are allergic, should never again get a black henna tattoo, dye their hair, or use other cosmetic products which may contain PPD. The cases pictured online are most likely the worst case scenarios, where the person wasn't told about the possibility of a reaction, didn't treat it, scratched at it and got a secondary infection. We have been doing these in a permanent location in a large mall for more than 2 years. We always tell customers of the possibility of allergic reactions and how it is treated. We have had very few complaints and we apply, conservatively speaking, more than 15,000 Black Henna tattoos a year.

The sites online publish information insinuating that black henna, when applied to the skin, will cause liver and kidney damage, and they also say that it caused death to some children. As far as it causing "death" is concerned, I have read the information that these sites refer to. The one concerning PPD causing "death" refers to a newspaper article where a group of children in Africa were forced to ingest straight PPD. The article does not mention the amount of PPD they were forced to eat or if the PPD was technical grade (used in the manufacture of rubber) or cosmetic grade (which has had carcinogens and other harmful ingredients removed). At any rate, we warn our customers not to eat the henna. The articles referring to "liver and kidney" damage are just as ridiculous. These are pure and simple scare tactics.

You should also be aware that the people who publish these frightening sites all either sell or use "natural" henna. They honestly believe that if they could make "black" henna disappear, they would then get all the business and have no competition. In our experience, we found the majority of people want a temporary tattoo that looks like a real black-work tattoo, not one the color of a freckle. Therefore, if black henna was not available, they would not choose to get a natural, orangish-brown henna tattoo. We used to do both the natural henna and the black. Had we only done the brown, we would have closed long ago. When we used the "natural" henna, we did occasionally see an allergic reaction to it as well. It was a very similar rash.

I don't remember seeing "paraben" on our website, but we do mention PABA. PABA was an ingredient that used to be in sun screens. People who are allergic to PABA are usually allergic to PPD as well.

I hope this answers all your questions. If you have any other questions, just e-mail me.

Sincerely,

Elle Christian

⁶⁴⁴ "ASSEMBLYMAN WHELAN'S BILL TO OUTLAW DANGEROUS 'HENNA' TATTOOS RELEASED BY ASSEMBLY COMMITTEE." *US States News*. May 10, 2007. LexisNexis Academic. (accessed August 30, 2013).

The New Jersey Assembly's Democrats issued the following news release:

Legislation Assemblyman Jim Whelan sponsored to prevent the selling of temporary "henna" tattoos that contain a powerful and dangerous chemical found to cause scarring and other disfiguring skin injuries was released today by an Assembly committee.

"Young people and vacationers seeking a whimsical tattoo may be unwittingly subjecting themselves to a lifetime of pain and aggravation," said Whelan (D-Atlantic). "What may look like an innocent temporary body adornment may actually be a permanent headache and a serious health problem."

Whelan, a school teacher and former seaside lifeguard, noted the recent growth in popularity of temporary henna tattoos at boardwalk kiosks, carnivals, and other tourism attractions around the state. The tattoos - cheaper and less painful than traditional, permanent needle-applied tattoos - are popular with children too young to be tattooed as well as adults who do not want a permanent marking on their skin.

Whelan said many black or blue henna tattoos contain phenylendiamine (PPD), a chemical that can cause severe dermatitis, eye irritation and tearing, asthma, gastritis, renal failure, vertigo, tremors, convulsions and comas in humans. PPD is an ingredient also commonly found in hair dye products, textile or fur dyes, photographic developer, printing inks, black rubbers, oils, greases and even gasoline. According to the federal Food and Drug Administration, PPD is not approved for direct application to the skin. Whelan crafted the measure (A-3997) after learning some young people have suffered permanent skin injuries as a result of PPD-based tattoos. He also noted a January 5 article in *The Record of Hackensack* that reported how some New Jersey families have launched lawsuits against a national company that provides PPD-based inks used in henna tattoos.

"Given that PPD is widely known to be a caustic irritant, we need common sense restrictions in place to protect young people from unknowingly putting themselves in harm's way," said Whelan. "No one, regardless of age, should be introduced to this chemical."

Under Whelan's bill, violations of the PPD-based tattoo prohibition would be punishable under the state's Consumer Fraud Act. First offenders would be fined up to \$10,000. Subsequent violations would be subject to fines up to \$20,000. Violators also could be subjected to injunctive relief, triple damages, and restitution.

The bill also would require body-art establishments to provide consumers with written notification about the potential risks of temporary tattoos.

The Assembly Consumer Affairs Committee released the measure 5-0. It now heads to the Assembly Speaker, who decides if and when to post it for a floor vote.

⁶⁴⁵ "Vainieri Huttie, Moriarty & Pou Bill To Outlaw Dangerous 'Henna' Tattoos Released By Assembly Committee." *Targeted News Service*. June 17, 2007. LexisNexis Academic. (accessed August 30, 2013).

The New Jersey Assembly's Democrats issued the following news release:

Legislation Assemblywoman Valerie Vainieri Huttie, Assemblyman Paul Moriarty and Assemblywoman Nellie Pou sponsored to prevent the selling of temporary "henna" tattoos that contain a powerful and

dangerous chemical found to cause scarring and other disfiguring skin injuries was released Thursday by an Assembly committee.

Many black or blue henna tattoos contain phelylendiamine (PPD), a chemical that can cause severe dermatitis, eye irritation and tearing, asthma, gastritis, renal failure, vertigo, tremors, convulsions and comas in humans. PPD is an ingredient also commonly found in hair dye products, textile or fur dyes, photographic developer, printing inks, black rubbers, oils, greases and even gasoline.

According to the federal Food and Drug Administration, PPD is not approved for direct application to the skin.

"Vacationers and children may be unaware that the whimsical temporary tattoo they purchase can produce permanent problems," said Vainieri Huttle (D-Bergen). "It is unconceivable that children are being exposed to a dangerous chemical that can produce lifelong scars."

"We need common sense restrictions in place to protect young people from unknowingly putting themselves in dangers' way," said Moriarty (D-Gloucester/Camden). "No one should be introduced to this chemical."

"These tattoos are dangerous, yet very popular at boardwalk kiosks, carnivals, and other tourism attractions around the state," said Pou (D-Passaic/Bergen). "Unfortunately, the tattoos are cheaper and less painful than traditional, permanent needle-applied tattoos, so they're also popular with children too young to be tattooed."

A January 5, 2007 article in *The Record of Hackensack* reported that some New Jersey families have launched lawsuits against a national company that provides PPD-based inks used in henna tattoos.

Under the bill (A-940), violations of the PPD-based tattoo prohibition would be punishable under the state's Sanitary Code. Each violation would constitute a separate offense, punishable by a fine of \$50 to \$1,000, recoverable in a civil action. The bill also would require body-art establishments to provide consumers with written notification about the potential risks of temporary tattoos and require a parental signature if the consumer is under the age of 18.

The Assembly Consumer Affairs Committee unanimously released the measure. It now heads to the Assembly Speaker, who decides if and when to post it for a floor vote.

⁶⁴⁶ Taz.. "Henna Banned in New Jersey!" *Sepia Mutiny Blog*. June 20, 2010

http://sepiamutiny.com/blog/2010/06/21/henna_banned_in/ (accessed September 2, 2013)

What's a Jersey Desi girl to do without her "henna tattoo"? The New Jersey Legislature today passed a bill, A940, which would prohibits application of certain temporary tattoos. (h/t inothernews). I was surprised that all hell didn't break loose from the Jersey Desi Bridezilla population who had to rework the activity on their Mehndi night. Then I read the legislation.

Assembly Bill No. 940 prohibits body art establishments from applying temporary tattoos containing paraphenylenediamine (PPD), including "black or blue henna..."

[U]nlike traditional henna which is made from an organic, plant substance, certain temporary tattoos contain additives, in some cases, PPD which can unknowingly cause permanent health concerns and scarring. Long term effects include severe dermatitis, eye irritation and tearing, asthma, gastritis, renal failure, vertigo, tremors, convulsions and coma in humans...PPD is not approved for direct application to the skin. [njleg]

Phew! Y'all can relax. The ban is only on the black henna w/ PPD, not the traditional organic mehndi made from smashing up henna leaves. Though the South Asian subcontinent henna leaves all leave a deep red dyeing of the skin, the traditional black henna comes from Africa and the Middle East. It turns out black henna isn't even derived from the same plant as regular henna is.

"Black Henna" is a misnomer arising from imports of plant-based hair dyes into the West in the late 19th century. Partly fermented, dried indigo was called "black henna" because it could be used in combination with henna to dye hair black. This gave rise to the belief that there was such a thing as "black henna" which could dye skin black. Indigo will not dye skin black.[wiki]

The lesson here, Mutiny? Don't use henna/mehndi unless it is pure and natural, the kind from the motherland. And never get yourself tattooed at one of those beach side tattoo places. Desi, please. Everything-is-Indian Uncle now has another story to add to his list.

⁶⁴⁷ Robert Miller. "Beware of black henna, doctors warn." *Newstimes.com*. August 24, <http://www.newstimes.com/local/article/Beware-of-black-henna-doctors-warn-3813597.php> (accessed September 2, 2013)

⁶⁴⁸ McCardell, Kate. "DOH says black henna tattoos are illegal, harmful to health." *Jackson County Floridan*, Marianna, Fla. February 16, 2007. LexisNexis Academic. (accessed April 17, 2013).

The DOH announced recently that coal-tar color P-Phenylenediamine (PPD), a dye used to alter the natural brownish pigment of henna, is only legal when used in hair dye, and could be harmful when applied on skin.

"It has caused throughout the country allergic reactions, some even resulting in scars," said Bill Dean, environmental health director for the Jackson County Health Department.

Dean warned that parents should consider this when vacationing with their children.

"A lot of times, it happens with teens and children because of the fact that they're temporary. While we don't have any tattoo facility here in Jackson County, there are people here that do go to the beach on spring break, where tattoos are much more available," said Dean.

Dean said that henna tattoos are "okay" in their natural tints, but to avoid it when dyed black.

To report an allergic reaction to black henna or for more information, call the environmental health division of the health department at 482-9227.

⁶⁴⁹ Vavala, Donna. "'Temporary' tattoos may cause scarring." *The News Herald* (Panama City, Florida). February 25, 2007. LexisNexis Academic. (accessed April 17, 2013).

Black tattoos are all the rage among celebrities and athletes.

Those who don't want to endure the permanence or pain of a real tattoo can get a painted-on black henna tattoo. But beware: Black henna tattoos may not be as temporary as they're touted to be.

Tourists who treated themselves to these tony "temporary" tattoos while vacationing in Florida, now are complaining of allergic reactions, and worse, permanent red scarring in the shape of the tattoo design.

The Florida Department of Health responded recently by issuing a statewide warning against black henna tattoos.

These warnings are not new. The agency began issuing warnings back in 2003 when it first received reports of severe allergic reactions and learned children as young as age 2 and 3 were affected.

The more common natural henna tattoo is harmless, but the color is not as intense and it doesn't last as long as black henna tattoos. Natural henna ranges in color from brown to red and is made from pigments derived from crushed plant matter, but the color fades quickly.

Black henna tattoos contain the natural henna plus an organic coal tar derivative called "paraphenylenediamine," or PPD. PPD's only legal use is in hair dye.

When applied to the skin, it can produce an allergic reaction immediately or even a few weeks after the black henna is applied.

Symptoms can include itching, rash, blistering, oozing, scabbing and permanent scarring.

"That's what gives the black henna tattoo longer staying power," Jason Newsom, director of the Bay County Department of Health, said of the PPD.

"It's illegal from the FDA's point of view, but nobody from there is around here to enforce it. We don't have oversight of that area."

Newsom said even if the FDA found a business that made and sold black henna tattoos, the most the agency would do would be to "confiscate the product, or maybe fine the business."

"Regular tattoo parlors do black henna tattoos as a side thing, but pretty much anybody can set up a cart and get some PPD and start selling black henna tattoos," Newsom said.

⁶⁵⁰ Offley, Ed. "Officials request ordinance barring 'temporary' tattoos: Ban on black henna?." *The News Herald* (Panama City, Florida). March 16, 2007. LexisNexis Academic. (accessed April 17, 2013).

Mar. 16--PANAMA CITY BEACH Julia Poe gladly will give you a black henna tattoo as part of your Spring Break vacation.

Sitting at a small table near the door of the Surf Style beach store at Beckrich and Front Beach roads, Poe has all the tools needed to apply one of the temporary

markings: a collection of sample patterns, an ink transparency to place the tattoo's outline and an applicator pen containing the ink.

"It only takes two or three minutes to do," Poe said. Cost: anywhere from \$6.50 on up.

Long touted as a painless and temporary body decoration, a black henna tattoo for many was as much a fixture of beach tourism as boogie boards, moped rides and the surf.

However, Florida health officials are intensifying warnings that the so-called "temporary" tattoos can cause painful allergic reactions and, in some cases, permanent scarring.

Bay County Health Department Director Jason Newsom has become concerned enough that he and Ralph E. Miller, the department's environmental health director, submitted a formal request to the City Council on March 8 to enact an ordinance banning black henna tattoos.

"We're asking for a flat-out ban against black henna and a public disclosure (warning) on red henna" when used as a temporary tattoo agent, Newsom said Thursday.

Black henna tattoos contain the natural henna plus an organic coal tar derivative called paraphenylenediamine, or PPD. The only legal use for PPD is in hair dye. Adding the dye to the henna creates an "adulterated" product that is illegal under U.S. Food and Drug Administration rules, Newsom said.

Mayor Gayle Oberst said she and Panama City Beach City Council members are "in agreement on principle" that black henna tattooing should cease, but devising an effective enforcement mechanism for an ordinance will require extensive study and review.

"Does enforcement require special training?" Oberst asked rhetorically. "Is there a special test" for PPD?

Newsom admitted enforcing such a ban "is outside my scope of knowledge" as a health professional.

Meanwhile, the state and county health warnings on black henna seem to have had some effect on availability of the tattoos.

A survey Thursday of a halfdozen Panama City Beach resort stores featuring signs advertising henna tattoos revealed most of the businesses no longer offer black henna versions.

One local store clerk, who asked that his name not be used, said all of the stores had received warning letters from health officials several months ago.

"People come in every day asking for them, and we say that we're not doing them anymore," he said.

George Espinoza, manager of the Jaws store on Thomas Drive where a bright orange neon sign advertises "henna tattoos," said he had directed that only "sparkly" henna tattoos be sold and that black ones using PPD are no longer offered.

Likewise, the five Heat Wave/Purple Haze beach stores along the beachfront ceased offering black henna tattoos after receiving the Health Department warnings, said general manager Chip Lasota.

⁶⁵¹ Misty. Comment, "Black Henna Nightmare," posted to *El Blog de Jamie*. March 28, 2007 http://www.fhlostoncreative.com/elblog/archives/2005/12/black_henna_nig.html accessed September 2, 2013

I got a small henna tattoo on my leg 12 days ago today in Panama City, Fl. It looked cool and stayed on fine until last night. It started itching and when I realized I was scratching it, I turned on the light to see it looked like your picture above (of blistering following a black henna temporary tattoo), except a lot smaller, like the size of a quarter. What should I do? Now, the middle of the day, all that's left is the red scar. The ink is almost gone. I'm going to try to find the name of the place I got it at. Any Suggestions of what I should say or anything? How to warn others?

⁶⁵² Michelle Osborne, "Treasure Amidst Tacky T-Shirts," *The Toronto Star*, September 2, 1998. LexisNexis Academic. (accessed April 17, 2013).

⁶⁵³ "Doctor warns of extreme reactions to hair dye, tattoos." *CBC News*. March 6. LexisNexis Academic. (accessed April 17, 2013).

Toronto's Samantha Schecter was recently treated in hospital shortly after dying her hair.

"I found out I was allergic. My head around my hairlines started to swell up," she told CBC News.

Schechter needed intravenous steroids to clear up the redness and swelling.

Tatoos sensitize people to PPD

She later found out the allergy began not with the hair dye, but with black henna tatoos she'd had done on her ankle.

The painted-on temporary tattoos are common at carnivals, festivals and beach resorts, but DeKoven says black henna contains higher concentrations of PPD than permanent hair dye does.

"As a result you're more apt to become sensitized or allergic to it, and then when you go and dye your hair - phooshh," he said, mimicking the sound of an explosion. "You have an unbelievable reaction."

Such reactions are becoming increasingly common according to dermatologists writing in a recent editorial in the *British Medical Journal*.

⁶⁵⁴ Lorraine Anthony. "Black henna tattoos unsafe: The temporary designs may have lasting effects on health, says doctor." *The Calgary Herald* (Alberta). March 14, 2007. LexisNexis Academic. (accessed April 17, 2013).

What DeKoven has seen is patients having to go to hospital emergency rooms a day or two after a hair-colour appointment. They report allergic symptoms -- anything from redness and irritation around the hairline and scalp to complete swelling of the face, where the eyelids were shut, and a rash all over the body.

The common link is that all previously had at least one black henna tattoo.

Dermatologists have become familiar with such allergic reactions in recent years as temporary tattooing has grown in popularity, DeKoven said.

Health Canada issued an advisory more than three years ago stating "the use of the ingredient paraphenylenediamine (PPD) in 'black henna' temporary tattoo ink and paste is unsafe."

But DeKoven said most Canadians, including many general practitioners, aren't aware of the effects of black henna tatoos.

Renee-France Bergeron of Health Canada said "PPD is banned in black henna . . . but that the ban is very difficult to enforce since the establishments that do it are often transient.

⁶⁵⁵ Debra Solomon. "Stung by a Bali scorpion - FAMILY HOLIDAYS." *Weekend Australian*. August 11, 2007. LexisNexis Academic. (accessed April 17, 2013).

"Stung by a Bali scorpion - FAMILY HOLIDAYS."

ON our Kuta holiday, we escape Bali belly and foil the canny money changers but fall victim to the brutal attack of a henna tattoo.

Ah yes, the humble *Lawsonia inermis*, or henna plant, which has been used to decorate body parts for 5000 years. It's innocent enough to look at but can mutate into what I'll call *weltus horribilis* when applied to a vulnerable tattoo.

My son's intricate tattoo design choice of scorpions intertwined around his upper arm seems good value at the equivalent of \$7. After a lengthy application at our hotel, he walks into Kuta with his decorated arm propped on one hip, catwalk-style, as he waits for the henna to dry.

Feeling pretty tough, sporting a fearsome tat befitting a jungle warrior, he is heartbroken to find next morning that the whole thing has almost faded. Once again, he is just another skinny 11-year-old kid in a \$4 pair of knock-off designer boardies.

Returning to the tattoo artist, formerly known as the waiter from breakfast, a new batch of henna is mixed and the design reapplied at no extra cost, with striking results. For a week he struts the beach and fends off approaching tattooists by brandishing his already decorated limb.

Seven days later the scorpion-tattooed lad is home in Sydney from his fantastic Bali holiday and awakes one night to find incredibly itchy red welts on his arm in the shape of (surprise, surprise) a ring of scorpions. Next morning he feels more rough than tough as he presents his arm to the doctor who, before you can say Bali sunset, has diagnosed a common case of black henna tattoo.

The doctor's search for henna tattoo skin reactions in his computer's search engine pulls up 396,000 entries, many of which contain a disproportionate number of references to Southeast Asia. Seems while *Lawsonia inermis* has served the faithful for five millenniums, it's just not good enough for the modern *Homo sapiens* who feels the need to lace it with the chemical paraphenylenediamine (PPD) to enhance the colour. The known reactions to PPD include severe oedema, swelling of the face, collapse, renal failure and asthma.

Or you may be lucky, as is our son, when the doctor tells him he will just have red welts that itch day and night. We thank the doctor for this information and for the news that our son may carry the allergy with him all his life. Oh, and that it can be up to six months before the welts disappear.

The sting in the scorpion's tail, if you'll pardon the pun, is that the doctor's bill is \$50, which is seven times more than the cost of the tattoo.

But three weeks on and the welts are gone; three months later, there is just a faint discolouration. And, of course, the inevitable niggling question remains as to whether our son will be able to work in a chemical dye factory when he grows up. Or as a roving tattoo artist on a Bali beach.

⁶⁵⁶ Kathy Mitchell and Marcy Sugar. "Report boyfriend, and don't take him back." *The Gazette* (Montreal).

September 19, 2007. LexisNexis Academic. (accessed April 17, 2013).

⁶⁵⁷ "Mother's henna scar fears." *The Sunderland Echo*. August 24, 2007. LexisNexis Academic. (accessed April 17, 2013).

A mother is calling for henna tattoos to be banned after her son fears he could be scarred for life.

Marnie Jones gave in to her children Kane and Ellie when they begged to have the patterns painted on to their skin as the family enjoyed a fortnight's holiday in Lloret on Spain's Costa Brava.

But the 38-year-old's fears it could go wrong came true when Kane's dragon design on his right upper arm started to blister.

There are fears the damage, believed to be caused by an allergic reaction to the dye, could leave him with a permanent scar.

Although he is not in pain, it is itchy and Kane has to apply an antibiotic steroid cream twice a day to help it heal.

His mother's appeal comes after Sunderland mum Julie Monarch warned other parents to be careful when letting their children get temporary tattoos when abroad.

Her son Clark, 10, was left with agonising burns and blisters after he had a Sunderland AFC henna tattooed on to his back when they were in Greece.

Mrs Jones, who works at Easington Community School as a teaching assistant, said: "I was very concerned because I had seen stories in the paper and read about it before and I thought 'They're not having one'.

"I didn't want to give in to them.

"It was a street artist near the hotel and we'd seen lots of other children with them and passed a shop, so I thought it must be okay.

"Kane had a dragon and Ellie had a unicorn on her back.

"Both faded pretty quickly and they were supposed to last 15 days.

"Kane's was practically gone and then 13 days after it flared up.

"It's red and raised. Obviously he's a bit worried about and thinking, 'Is this permanent?'.

"From what I've read on the Internet it could mean that he's allergic to the dye for the rest of his life."

Marnie, who was also on holiday with husband Billy, 38, who works at Nissan, added that the dye used on their youngsters was black, rather than brown like most henna.

⁶⁵⁸ Sue White. "A massage to India; ASIA SPECIAL REPORT - DESTINATION INDIA." *Sydney Morning Herald* (Australia). October 6, 2007. LexisNexis Academic. (accessed April 17, 2013).

It's the absurd promotional flyer that convinces me to go inside: "Tailor-made treatments for the time-crunched tourist and business traveller. To be prodded and rubbed and kneaded and generally treated like a human pie-crust child."

Over a hot chai, Dr Jaggi and I discuss the options available for my first human pie-crust experience. Shirodhara, the first step in the Ayurvedic detox program, sounds tempting. Two litres of specially blended oils will be slowly poured onto my temple to help remove any mental stress before the scalp is massaged. When I learn that the basic massage (Abhyanga) involves two masseuses kneading each time-crunched tourist, my decision is made.

I follow the practitioners up marble stairs to the massage room and am relieved to discover an intricately patterned, coffin-shaped shell has nothing to do with my massage - it's a steam bath. I'm offered an enormous pair of cotton briefs, which I slide on over my own underwear.

Ayurvedic massage uses copious amounts of oil; friends have warned me any clothing worn will likely be drenched. I settle on a bench covered with a plastic sheet and relax. Warm, pungent oils are poured onto my back while long sweeping movements at just the right pressure lull me into a trance-like state and I'm allowed to drift off. This is no five-star resort but the experience is definitely authentic. Dr Jaggi has been practising since 1986 and all techniques follow Ayurveda's strict guidelines.

Later I go looking for an oil-free Indian experience. Henna wallahs (street vendors) stencil intricate designs onto arms, legs and feet. Known as mehendi, henna designs are traditionally commissioned before wedding ceremonies by both the bride and groom. They are also worn as a fashion statement by Indian women at any time. Like the afterglow of a good holiday, henna tattoos are temporary. Typically lasting from five days to two weeks, mehendi offer visitors the tattoo they never dared to have.

Enticed by any technique that allows me to rest in the heat, I sit down with an elderly man who has worked with henna for 15 years. My first design is expertly squeezed out of its small tube in a process not unlike icing a cake. Deftly, he fashions the paste into a delicate pattern of circles and flowers that travel gracefully along my forearm. As we wait for the paste to dry he explains I need to keep my design protected only for another three hours before I can wash it and reveal its full glory.

Pre-wedding mehendi designs on the palms, arms and legs signal impending nuptials to the world but, as I'm told by a scholar from Lucknow who compliments my design as we wait on a packed train platform, henna has antiseptic properties, too. "If we are to be married, you may not know my hygiene and I may not know your hygiene, so the antiseptic properties are very helpful."

There are downsides to this unique souvenir. One design, which looked fantastic for the fortnight it stayed on my forearm, leaves a trail of dyed hairs behind. Months later, my formerly blonde arm hairs remain a vivid black as they grow out at a painstakingly slow rate.

While henna and massage are experiences for the body, ashrams aim to help the mind. India's spiritual centres are an important aspect of Hindu culture; as European tourists visit churches, Indian tourists visit ashrams. It's common for holidaying Indian families to stop in for a meal or offer their evening prayers, but foreign visitors are just as welcome. In Rishikesh, in the foothills of the Himalayas, dozens of ashrams welcome visitors for a meal, a yoga class or to stay for a night, a week or a month. (The Beatles are the most famous visitors to Rishikesh.)

I choose an "easy" ashram. Phool Chatti was once a stopover for pilgrims walking the arduous trail to Himalayan sites. Today, families still drop by as they make the same journey by car, but the ashram is most popular with travellers for its week-long retreats providing yoga, meditation and an introduction to ashram life.

The mood is positive among the 20 or so visitors participating in my ashram experience as we gather on the banks of the Ganges River. Many have never done yoga before, which is surprising given our schedule includes three hours of yoga, an hour of meditation and a variety of other yogic practices that begin at six in the morning.

In stricter environs (many ashrams are famous for their tough discipline) this may be problematic, but at Phool Chatti the attitude is more relaxed. Students are encouraged to participate in the full ashram schedule, but there are no recriminations if you sleep through the morning bell.

After a week of vegetarian meals taken seated on the floor of the dining hall, daily sinus-cleansing practices and lots of special yogic breathing practice, the newcomers seem satisfied but eager to move on. Now I'm accustomed to the early morning starts I could easily stay longer. Except for the fact my henna tattoo has faded and I'm ready for another massage.

⁶⁵⁹ Peta Bee. "Body art: do it at your peril." *The Times* (London). October 22, 2007. LexisNexis Academic.

(accessed April 17, 2013).

Henna tattoos

How it's done: By applying pure henna dye - an extract of the plant *lawsonia intermis* - to the skin. Madonna became a fan a few years ago. Henna tattoos are not permanent but can take months to wear off.

The risks: Pure henna dye used in traditional Indian applications as well as in reputable beauty parlours rarely causes problems. However, inferior dyes often contain para phenylene diamine (PPD) to make it look darker, which can set people up for a lifetime of skin sensitivity. Just 10 per cent of PPD added to henna will trigger a reaction in up to 80 per cent of people, according to Allergy UK. This is more likely to happen in developing countries where standards are lax. Because PPD is present in hundreds of cosmetics and household cleaning products, an allergy triggered by henna tattoos can recur often on exposure to the chemical.

Play it safe: Visit a salon only where pure henna is used and ask for a patch test beforehand.

⁶⁶⁰ "Hayley's tattoo trauma." Milton Keynes Citizen. October 11, 2007 . Date Accessed: 2013/04/17.

www.lexisnexis.com/hottopics/lnacademic.

She said: "In Marrakesh there were lots of hagglers and I couldn't resist getting the odd bargain, but when it came to getting a tattoo I went to a special government-run centre where prices were fixed.

"On previous holidays I'd got semi-permanent tattoos as a kind of souvenir. I'd had a henna tattoo before so I didn't think much of having the 'black henna' tattoo in Morocco.

"But within a few days of getting home my hand started really itching and I couldn't sleep because it became so sore.

"Over the next few days blisters were coming up in place of the tattoo ink and my hand became swollen and painful.

"I went to a drop-in clinic near where I work in Newport Pagnell and they prescribed antibiotics to stop any infection. It's now nearly three weeks since I had the tattoo and it's still inflamed.

"I'm really worried I will be scarred for life."

⁶⁶¹ "ALABAMA DEPARTMENT OF PUBLIC HEALTH ANNOUNCES TEMPORARY 'BLACK HENNA'

TATTOOS MAY CAUSE SKIN DAMAGE." *US States News*. February 20, 2008. LexisNexis Academic.

(accessed April 17, 2013)

The Alabama Department of Public Health asks the public to be aware of the risks involved with getting "temporary" black henna tattoos, because allergic reactions and injuries can result. Black henna tattoos are popular with children, teens and others, and may be available at coastal beach shops and through other vendors.

The U.S. Food and Drug Administration does not approve henna for direct application to the skin. Henna, a coloring made from a plant, is approved only for use as a hair dye. Since henna typically produces a brown or orange-brown tint, other ingredients must be added to produce other colors, such as those marketed as black henna. This so-called black henna may contain coal tar color p-phenylenediamine, also known as PPD. This ingredient may cause mild to serious allergic reactions in some individuals when it is applied directly to the skin.

"A natural plant dye called henna or mehendi is used to stain the skin without the use of needles," said environmental supervisor Tim Hatch of the Alabama Department of Public Health. Consumers are cautioned to be aware of the risks associated with henna tattoos in general, and of black henna tattoos in particular. For more information or to report possible reactions to black henna tattoos, visit www.fda.gov.

⁶⁶² Ricketts, Dusty. "Tattoo taboo: Warning issued for black henna." *Northwest Florida Daily News*. (Fort Walton Beach, Florida). March 24, 2008. LexisNexis Academic. (accessed April 18, 2013)

FORT WALTON BEACH -- Anyone considering getting a black henna tattoo might want to think twice.

The Florida Department of Health has issued a warning against the use of p-Phenylenediamine, commonly referred to as PPD or black henna, because it can trigger allergic reactions.

While traditional henna is made from a plant and has been used for hundreds of years to decorate the skin, black henna is a chemical used in hair dyes.

Okaloosa County commissioners recently approved an emergency ordinance that requires all businesses that offer black henna tattoos to warn its customers of potential side effects.

"This is happening all over the state and all over the nation at popular tourist communities," said Dr. Karen Chapman, director of the Okaloosa County Health Department. "We felt strongly the least we could do is to warn them."

Reactions to PPD range from itching and blistering to permanent scarring. Not everyone is allergic to PPD, and Chapman said it is impossible to tell who is before it's too late.

While allergic reactions have been reported throughout the state, Edith Coulter, an environmental adviser with the Florida Department of Health's Bureau of Community and Environmental Health, said most of the complaints have come from Northwest Florida.

Her department received 17 complaints from the Panhandle last year.

The state Department of Health does not have data on the number of black henna tattoos given, so it does not know what percentage of people is susceptible to allergic reactions.

Udi Boskica, owner of Wings and Alvin's Island stores in the area, said his businesses stopped using black henna last year after hearing about the allergies. His stores have replaced black henna with jaqua, a plant-based paste that replicates the bluish-green look of traditional tattoos for about two to three weeks.

"Because it caused damage to people's skin and caused reaction to people's skin ... and I want people to come in happy and go home safe, so we're just going to do the jaqua," Boskica said. "If people want to get some henna, they can go to a different place. We do not want to take a chance."

⁶⁶³ "FLORIDA DEPARTMENT OF HEALTH WARNS PUBLIC OF POTENTIAL SKIN DAMAGE FROM TEMPORARY 'BLACK HENNA' TATTOOS." *US States News*. June 3, 2008. LexisNexis Academic. (accessed April 18, 2013)

As families prepare for summer vacations to Florida's resort areas, the Florida Department of Health (DOH) warns individuals to consider potential health risks before having a temporary "black henna" tattoo applied to their skin. Last year, DOH received reports of 24 individuals, both children and adults, who had a severe allergic reaction from a temporary "black henna" tattoo they had applied while vacationing in Florida. Other incidents may not have been reported to the department due to the time lapse between application of the tattoo and presentation of symptoms.

DOH warns that there is no such thing as "black henna". True henna is made from crushed henna leaves, producing a green or greenish-brown powder, which is mixed with harmless liquids, such as oil and lemon

juice, before application to the skin. The green or greenish-brown paste may be applied free hand or by tracing over a stencil with an applicator or brush. No needle is involved. The paste, if left on for a number of hours or overnight before removal, leaves a brown or reddish brown finished tattoo.

"Black henna" tattoos have become popular in recent years, particularly in resort areas of Florida. The paste that is used for a "black henna" tattoo is black or brownish-black and dries more quickly than pure henna. The dried paste can be removed in approximately an hour, leaving a black finished tattoo. The danger of temporary "black henna" tattoos is that the black color may result from the addition of black hair dye, which may contain a recognized allergen called para-phenylenediamine (PPD). PPD can cause severe allergic reactions in some individuals.

⁶⁶⁴ "YOUR LIFE: WHAT YOU MUST KNOW IF YOU DYE YOUR HAIR; HEALTH COLOURING YOUR HAIR MORE THAN NINE TIMES A YEAR HAS BEEN LINKED TO VARIOUS HEALTH SCARES. THE LATEST STUDY CLAIMS IT COULD INCREASE YOUR RISK OF CANCER. WE GET THE EXPERTS' VERDICTS..." *The Mirror*. June 5, 2008. LexisNexis Academic. (accessed April 18, 2013)

Researchers writing in the *British Medical Journal* suggest the number of allergic reactions to hair dye has doubled in the past few years.

Reactions can vary from a slight tingling sensation to an itchy, red and swollen scalp, face and ears, a condition known as allergic contact dermatitis. And, although it's incredibly rare, severe allergic reactions called anaphylaxis can kill.

Thirty-eight-year-old Narinder Devi, a mother of three from Edgbaston, Birmingham, died after using a home hair-dye kit in 2001.

SHOULD YOU BE WORRIED?

If you've ever had a black henna tattoo, yes, says Nina Goad of the British Association of Dermatologists.

"Reactions to hair dye are uncommon. However the majority of reactions occur in people who have previously had a black henna tattoo, even if they didn't have a reaction to the tattoo at the time."

This is because you can become sensitised to an ingredient in black henna called PPD, which is also found in many hair dyes.

⁶⁶⁵ "Teen scarred by fake tattoo." *Wakefield Express*. June 16, 2008. LexisNexis Academic. (accessed April 18, 2013)

A MUM is warning parents to be wary of temporary tattoos after her 10-year-old daughter was left blistered and scarred on holiday.

Pat Barnett, 29, paid a street tattooist 12 Euros for a temporary black rabbit-shaped tattoo for daughter Rachel on a Greek family holiday last Tuesday.

Dad Darren, 32, and sister Libby, seven, were also staying at the resort.

When she uncovered the tattoo on Rachel's right shoulder two days later, Mrs Barnett noticed it was red around the edges and there were some blisters.

The itching blisters spread, and Rachel was in severe discomfort for the rest of the holiday.

She saw her doctor when the family returned home on Friday and was told it was an allergic reaction to the ink - which the tattooist had advertised as being henna.

She now has to apply ointment every day and take medication four times daily.

Mrs Barnett, of Wheatley Avenue, Normanton, said it was not known if the scars would disappear.

And she has since learned that the ink used to apply the tattoo may have been mixed with hair dye containing a harmful chemical.

She said: "It looked awful. I just want other parents to be aware. It is one thing this happening to an adult, but when it's a 10-year-old girl that's another matter."

Lindsey McManus, from the charity Allergy UK, said the henna Rachel was given could have contained para-phenylenediamine (PPD), found in many brands of hair dye.

She said: "If the henna was black in colour then I would guess it was PPD. We hear about it a lot during the summer months and it can cause a very serious reaction."

⁶⁶⁶ "Our henna tattoo horror." *Bath Chronicle*. June 12, 2008. LexisNexis Academic. (accessed April 18, 2013)

This is a warning for everyone about to embark on their summer vacations abroad. My family and I have just returned from a holiday in Turkey, where, as in many other places, henna tattooing is all the rage.

Along with hundreds of others, my children had some tattoos and like many other people, I had no idea that henna tattoos do not come in black. True henna tattoos are red or brown. If the tattoo is black it is actually a hair dye chemical called Para-Phenylenediamine, or PPD, which in some people causes severe allergic reaction with lifelong side-effects.

Unfortunately, my 12-year-old son was one such person. Three days after he had his tattoo, the tattoo started to itch and blister, overnight it became a weeping mass. A visit to the doctor and some research on the internet revealed the true horror of this reaction.

He is now what is known as PPD-sensitised. This means for the rest of his life he will be allergic to hair dye, all cosmetics (possibly including deodorants), he will be hypersensitive to the sun but at the same time allergic to most sunblocks.

He will be allergic to black clothing and possible other colour textile dyes, rubber products, printer inks, any cream with PABAs (para-amino benzoic acid) in, any antibiotics with 'sulfa' and any drugs/creams with ingredients ending in 'caine'. He will also be allergic to such things as verruca treatments. The PPD has entered his blood-stream as it is a transdermal toxin as well as a carcinogen and can cause many other health problems.

My son is on strong medication currently to lessen the reaction. He is under constant monitoring by the doctor and we are waiting to see a dermatologist. He is now what is known as PPD-sensitised. This means for the rest of his life he will be allergic to hair dye, all cosmetics (possibly including deodorants), he will be hypersensitive to the sun but at the same time allergic to most sunblocks.

He will be allergic to black clothing and possible other colour textile dyes, rubber products, printer inks, any cream with PABAs (para-amino benzoic acid) in, any antibiotics with 'sulfa' and any drugs/creams with

ingredients ending in 'caine'. He will also be allergic to such things as verruca treatments. The PPD has entered his blood-stream as it is a transdermal toxin as well as a carcinogen and can cause many other health problems.

⁶⁶⁷ "Consumer Alert: Black Henna Tattoos Can Cause Serious Skin Reactions." *PR Newswire*. July 30, 2008.

LexisNexis Academic. (accessed September 4, 2013)

CHICAGO, July 30 /PRNewswire/ -- Dermatologists are warning consumers that the harmless-looking, henna tattoos that are being sold everywhere from summer carnivals and open-air malls to cruise ships and vacation hot spots could contain a harmful chemical known as para-phenylenediamine, or PPD, used to create longer-lasting black henna tattoos. Notably, PPD has been associated with a rash of major skin problems.

At the American Academy of Dermatology's Summer Academy Meeting 2008 in Chicago, dermatologist Sharon E. Jacob, MD, FAAD, assistant clinical professor of pediatrics and medicine (dermatology) at the University of California, San Diego, discussed the dangers of black henna tattoos and how dermatologists are treating an increasing number of patients, including very young children, with skin problems from allergic reactions to PPD.

Natural henna used for temporary tattoos is made from leaves of the *lawsonia inermis* plant, which provides a vegetable coloring that comes in shades of brown, green or red. Temporary coloring (dyeing) of the skin with natural henna is considered harmless and only lasts for a few days. To increase the intensity of the tattoo beyond which can be attained with natural henna color and to prolong the longevity of the temporary tattoo from days to weeks, some henna tattoo artists are adding PPD (commonly also used for black hair dye) into the henna mix. This turns the tattoo black.

The U.S. Food and Drug Administration (FDA) prohibits the direct application of PPD to the skin because of its known health risks. However, since the tattoo industry is not regulated, people are still getting black henna tattoos and exposing themselves to serious medical problems.

"Perhaps the most alarming issue we are seeing with black henna tattoos is the increase in the number of children -- even children as young as four -- who are getting them and experiencing skin reactions," said Dr. Jacob. "Kids make up a significant portion of the population that receives temporary tattoos, because parents mistakenly think they are safe since they are not permanent and are available at so many popular venues catering to families. In fact, nothing could be further from the truth."

Dr. Jacob noted that to date, there have been hundreds of case reports of allergic contact dermatitis from black henna tattoos, with reactions ranging from mild eczema to blistering and even permanent scarring. The first sign of a reaction is typically redness and itching, followed by bumps, swelling and then blisters. Topical steroids can be used to stop the reaction, but Dr. Jacob explained that whether or not any scarring occurs depends on the depth and severity of the inflammation.

In addition, some people may become sensitized to PPD from just one exposure -- meaning that the immune system becomes prepared to remember the chemical to which it has been exposed or a chemical with a similar structure. When this happens, a person can develop a lifelong sensitivity to PPD and an allergy can cause a cross reaction to other compounds, including certain medications. For example, use of some heart, hypertension and diabetes medications, and even some anesthetics used in topical hemorrhoid preparations or oral gels, can lead to allergic reactions in people previously sensitized to PPD.

"Each exposure to PPD re-challenges the immune system, so each time you get a black henna tattoo or use a hair dye that contains PPD, there is an increased risk of having a reaction," said Dr. Jacob. "Many people are sensitized to PPD, but don't have a reaction to it. However, each time you are exposed to black henna, you increase your risk of developing a lifelong allergy to it."

Dr. Jacob advised if one does choose to obtain a henna tattoo, only do so if you can be certain that only vegetable henna is used, not PPD-adulterated henna. "Unless the artist can tell you exactly what's in the tattoo, don't get one," said Dr. Jacob.

The American Academy of Dermatology Association (AADA) endorses a ban on the practice of applying PPD-adulterated henna tattoos, and some state dermatology societies have started posting warnings on their Web sites about black henna tattoos.

For any skin reactions that develop from a temporary tattoo, Dr. Jacob recommended that people see their dermatologist for proper diagnosis and treatment. If a serious reaction occurs, such as severe blistering or swelling, she said seek immediate medical attention.

⁶⁶⁸ "TEMPORARY TATTOOS COULD BE TROUBLE." *St. Petersburg Times* (Florida). August 15, 2008.

LexisNexis Academic. (accessed September 4, 2013)

⁶⁶⁹ "HENNA TATTOOS CAN CAUSE SKIN REACTIONS." *St. Petersburg Times* (Florida). August 13, 2008

Wednesday. LexisNexis Academic. (accessed September 4, 2013)

⁶⁷⁰ "Doctors warn of black henna risks." *UPI*. August 12, 2008. LexisNexis Academic. (accessed September 4, 2013)

⁶⁷¹ RJS. July 30, 2008. "Harmful Henna Tattoo." *Pediatrics for Parents*.

<http://www.pedsforparents.com/articles/4116.shtml> (accessed September 2, 2013)

⁶⁷² "Black henna tattoos can cause major skin problems." *Hindustan Times*. (August 3, 2008 Sunday 2:52 PM EST): 335 words. LexisNexis Academic. (accessed September 4, 2013).

⁶⁷³ Melissa Dahl. August 8, 2008. "Henna Hazard: chemical causes ornate allergies." *NBC News*

http://www.nbcnews.com/id/26080350/ns/health-skin_and_beauty/t/henna-hazard-chemical-causes-ornate-allergies/ (accessed September 2, 2013)

⁶⁷⁴ Robert Preidt. July 31, 2008. "Black Henna Tattoo Chemical Can Cause Skin Reaction." *ABC News*.

<http://abcnews.go.com/Health/Healthday/story?id=5491708&page=1> (accessed September 2, 2013)

Cheryl Clark. August 12, 2008. "Doctors warn of skin problems from black henna." *U-T San Diego*. © Copyright

2008 Union-Tribune Publishing Co http://www.utsandiego.com/uniontrib/20080812/news_1n12henna.html

(accessed September 2, 2013)

⁶⁷⁶ Catherine Shanks. "Boy burned by 'fun' tattoo on beach holiday." *Aberdeen Evening Express*. August 9, 2008.

www.lexisnexis.com/hottopics/lnacademic. (accessed April 18, 2013)

LITTLE Matthew Clark could be left scarred for life after a temporary holiday tattoo went wrong.

The seven-year-old has been left with the pattern burned into his arm.

And his angry mum today warned other parents of the dangers of black henna tattoos after she allowed her two boys to get the patterns inked on their arms.

Angela's younger son Harry, 5, has experienced a much milder reaction to the tattoo.

Angela, a company director, of Milltimber, Aberdeen, was on holiday in Costa del Sol for two weeks with her husband Peter, 46, a loss adjuster.

They thought the black henna tattoos being offered at the Cabopino Beach, Calahonda, were innocent enough for the two Milltimber Primary pupils.

Angela said: "It was something they wanted as soon as they saw it.

"They had the tattoos done the first week and then wanted them done again before they came home to show their friends."

But almost immediately after having the second tattoo, Matthew was left with a stinging and itchy arm.

Angela said: "We washed it off but what followed was blistering.

"Over the next three days, he developed blisters and very raised red angry skin."

Angela said she took her son to the duty doctor when they got home who prescribed a cream to reduce inflammation and treat any infection of the skin.

She said only time will tell if there will be permanent scarring.

Angela said: "I have since read that henna is not black, but green, greenish brown or very dark brownish green, and certainly does not cause blisters and open sores."

She reckons the people working on the beach used PPD - Para-Phenylenediamine - which is used in black hair dye.

Angela said: "I want to stop it from happening to other kids.

"I just hope Matthew is not burned badly enough to be scarred for life.

"Hopefully this will stop other parents from getting the black tattoos for their kids."

⁶⁷⁷ "Boy, 3, faces lifelong Bart Simpson scar after suffering reaction to henna tattoo." Mail Online. October 1, 2008.

<http://www.dailymail.co.uk/news/article-1065932/Boy-3-faces-lifelong-Bart-Simpson-scar-suffering-reaction-henna-tattoo.html> (accessed September 2, 2013)

A boy is facing a lifetime with a Bart Simpson-shaped scar on his forearm after suffering a reaction to a "temporary" tattoo he got from a Spanish street stall.

Vinnie England, three, was holidaying in Benidorm with his family when he got the two-and-a-half inch image of the spiky-haired character on his right arm at a henna tattoo shack.

Just days after returning home, Vinnie, from Southmead, Bristol, complained that his arm was hurting and the temporary image soon began to redden and blister.

Mrs Shipway, who has let Vinnie have stick-on tattoos before, said he keeps asking her to take it off.

⁶⁷⁸ Richard Watts. "Boy, 7, scarred by temporary tattoo." *Canwest News Service*. August 19, 2008.

www.lexisnexis.com/hottopics/lnacademic. (accessed April 18, 2013)

The mother of a seven-year-old boy who was scarred by a so-called "temporary" tattoo is warning others that the body art can leave permanent damage.

"I really hope that more people are aware of this," said Sarah Leslie, mother of Taylor Leslie-Aune from Langford, B.C.

On a family holiday in Mexico last month, Taylor was given what was supposed to be a temporary henna tattoo. It stayed on through the trip and lasted a few weeks past their Aug. 2 return.

But within a day after the tattoo finally wore off, Taylor's design reappeared. But instead of a dyed mark, it was an angry, raised welt precisely mimicking the pattern of the old design.

Leslie, a 30-year-old daycare operator, took Taylor to the doctor and went online to do some research. It turns out the so-called "henna" marking was probably paraphenylenediamine, or PPD, a material used in some hair dyes, although in low concentrations.

Earlier this month, Health Canada even put out a warning about PPD, "black henna," advising it can cause severe allergic reactions, like rashes, welts, blisters, contact dermatitis and even open sores.

Once someone has suffered one allergic reaction, it may lead to increased sensitivity to PPD or other products, like hair dye, sunblock or some black clothing, Health Canada warns.

One telltale warning sign for anyone looking to get a temporary tattoo or body marking is the jet-black colour of the dye. Real henna ranges in colour from an orange to brown, never jet black.

Leslie, who has been to Mexico many times, said body artists, such as the one who marked Taylor, are a common sight all over the country. Her son was marked in a four-star hotel on the Mayan Riviera.

She believes the reason the body artists get away with using the PPD material is the delayed reaction. It often comes weeks after the original application.

Leslie said Taylor's welt has faded back somewhat and no longer looks as red.

But her doctor has told her the mark could be permanent.

"It could be permanent, or it could fade over time," she said.

⁶⁷⁹ Daily Mail Reporter. "Seven-year-old boy, left burned, blistered and scarred by another henna 'tattoo' horror."

Mail Online. August 26, 2010.

<http://www.dailymail.co.uk/news/article-1306308/Seven-year-old-boy-left-burned-blistered-scarred-henna-tattoo.html> (accessed September 9, 2013)

⁶⁸⁰ "Warning over 'temporary' tats for kids." *The Daily Telegraph*. June 8, 2009.

<http://www.dailytelegraph.com.au/news/national/warning-over-temporary-tats-for-kids/comments-e6freuzr-1225729727175> (accessed September 5, 2013)

Comments on this story

hysteria Posted at 10:33 AM June 08, 2009

Well aren't you an idiot for letting your child have the Henna tattoo? You're in a country that has a less than desirable approach to cleanliness!

Comment 1 of 13

Down to earth of Coffs Hbr Posted at 10:36 AM June 08, 2009

This is a disgrace, five year olds should be able to get tattooed safely. What on earth were his parents thinking? obviously NOT MUCH. He's five for Christ's sake let him be five before he is twenty-five. At least this might teach him a little about caution, his parents don't seem to have much.

Comment 2 of 13

Cameron of sydney Posted at 10:47 AM June 08, 2009

You called your kid Cannon and allowed the poor 5 year old to have a dragon Henna tatoo. Another example of fine parenting.

Comment 3 of 13

steve white of Port Macquarie Posted at 11:08 AM June 08, 2009

I was over in Bali in January of this year, I shouted ny nephew a temp tattoo of the same dragon design and I had a shark done, both of us had them done on the left shoulder at the same time, my nephew's blew up into a pussy lump within 1 hour and wepted for the remainder of our holiday despite applying steriod cream, It has finally disappeared after 5 months luckily leaving no scaring, yet I had no reaction what so ever, our doctor beleives it to be an allergic reaction, So my advice to young Cobb is continue with the cream it will dis appear eventually and next time go visit Schepplle Corby instead its cheaper and safer.

Comment 4 of 13

Real Ink of Real Men Posted at 11:48 AM June 08, 2009

Parents Being Responsible??? What the hell is a five year old boy getting a fake tattoo. What happened to getting satisfied from stickers in bubble-gum wrappers. Unfortunately a friend of mine years ago had a fake tattoo painted on in Thailand when he returned and it faded it left a raised impression of the tattoo on his arm. He is now 31 and it still shows.

Comment 5 of 13

JUDGE DRED of sydney Posted at 1:38 PM June 08, 2009

when you go to a country where everything is fake, why would a tattoo be any different ,probably using the cheapest ink in the world.

Comment 6 of 13

rob of brisbane Posted at 2:03 PM June 08, 2009

how stupid are the parents to have allowed him to get it in the first place. Hello he is 5. Not 15.

Comment 7 of 13
Abe Froman of Sydney Posted at 2:08 PM June 08, 2009

Oh, well, look on the bright side. Being the only kid in school with a tattoo, I doubt whether he'll ever get bullied.

Comment 8 of 13
Debi of Sydney Posted at 2:27 PM June 08, 2009

What sort of moron gets a henna tattoo on a child's delicate skin, even adults have had reactions to the dye so what would possess someone to use it on a 5 year old.

Comment 9 of 13
Henryk of InWorkingClassSuburbanSydney Posted at 3:23 PM June 08, 2009

Beware of anything you do to your body in Bali

Comment 10 of 13
Dirty of Bangkok Posted at 3:24 PM June 08, 2009

What sort of moron lets a 5 year old get a tattoo with god knows what in it?? Anyone with half a brain knows this sort of stuff is totally unsafe in this part of the world where they put all sorts of stuff in the dye (amongst plenty of other adulterated products). This kid's parents need to be looked at for child abuse.

Comment 11 of 13
Scarlet of NSW Posted at 4:02 PM June 08, 2009

Lesson well learnt I'd say!

Comment 12 of 13
mike of Sydney Posted at 4:06 PM June 08, 2009

Dopey Parenting.....

Comment 13 of 13

⁶⁸¹ Neeeeeeeeeeek. Comment, "More stupid people who shouldn't be allowed kids!" posted to Sheffield Forum for everything Sheffield.. October 10, 2008 <http://www.sheffieldforum.co.uk/showthread.php?t=403063> (accessed September 2, 2013)

"To be fair it's supposed to be safe and how would she know her kid would be allergic to it?"

"... they're everywhere when you go abroad and all the kids love getting them done - this is the first time I've heard that anyone's been allergic too, well, in the newspapers at least..."

"Maybe it's just me that knows henna is not black!"

"I thought there are several colours of henna, black being one of them."

⁶⁸² Ibid.

⁶⁸³ "Henna tattoo leaves boy with scar." *News Gold Coast*. Your Say. June 8, 2009

http://www.goldcoast.com.au/article/2009/06/08/86241_gold-coast-news.html (accessed September 2, 2013)

⁶⁸⁴ Ibid

We have knowledge of Henna tattooing and 'air-brush' body art here in Adelaide, Australia and the body art that Cannon got in Bali was NOT Henna at all but a mix of chemicals and dyes, some even known to contain traces of battery acid! People need to be aware that the risk of severe skin reaction to such harsh chemicals is high and often when mixed with tap water [during application] worsens the reaction. Tourists need to be aware of the difference between organic Henna and black body dyes!!

Posted by: MoragD of The Tattoo Gallery Adelaide of Adelaide, SA 11:56am Thursday 23rd June
Comment 2 of 72

hi, it is not funny to answer some, it was only a gift from parents that went wrong so don't judge the parents, to all parents; cortisone it does not work always, give a try to a special cream from Terry White chemist that is called something like invisible glove, not sure for the name but if you ask at this chemist they will know, but make note that only Terry White chemist is selling it, good luck and please look after your self wherever you are holidaying. good luck

Posted by: Sophie of Reservoir 11:03am Thursday 23rd June
Comment 3 of 72

My family and i have been going to Bali for years. My 17 year old sister (then 12) had the exact same thing happen to her. it was a serious looking burn/rash. Don't worry, It is not permanent. It will take a couple of weeks to go down and there won't be any scar at all. Just keep putting creams on it and it will be fine.

Posted by: Ellana of Brighton, Vic 10:31am Thursday 23rd June
Comment 4 of 72

hi my name is michelle and i had the same thing happen to me 14 years ago in bali my reaction was visible for a few years but i am happy to say it has cleared now and can not be seen. but i have reactions to a lot of things that come in contact with my skin, shampoos conditioners hair dyes so always test a little bit on your skin before going and having anything done especially on a child in any country their skin is more irritable than ours

Posted by: michelle of queensland 10:28am Thursday 23rd June
Comment 5 of 72

What a legend at school though

Posted by: Naughty balinese of aus 09:44am Tuesday 10th May
Comment 6 of 72

Why would you let a 5 year old get a tattoo in the first place even if it is not real. I mean what kind of an example are you setting for him????

Posted by: Mya of Gold Coast 09:16pm Friday 1st October
Comment 7 of 72

Hi My Son has two temporary tattoos on his arms from Bali a month ago and he got red welt on his arm after 10 days and we will take to a doctor tomorrow. I'm sorry to hear about this. I will tell to our travel agent about this so they can tell to all their customer to beware with this temporary tattoo anywhere. Hopefully our son getting better soon.

Posted by: Yuni Ward of Kiama 07:53pm Sunday 15th August
Comment 8 of 72

He's going to be the coolest kid in grade one!

Posted by: Cool of Bangkok 07:53am Monday 5th October
Comment 10 of 72

Don't see why everyone thinks this is such a tragedy..the tattoo looks pretty awesome hahaha

Posted by: Kyle 02:18am Thursday 6th August
Comment 11 of 72

my son had 2 tattoos on his arm in bali the beginning of june, both have now blistered and ulcered he is now reacting to medication as well. why is there no warnings on smart traveller ?

Posted by: Anna of tweed coast 08:55pm Thursday 2nd July
Comment 12 of 72

My 11 year old son had the same reaction to a henna tattoo in bali. we came home on 19/6/09, he had an eagle tattooed on his back and he has red welts in the shape of an eagle on his back as a result. Our doctor has seen this before and has us applying cortisone cream twice a day but warned us it would take years for the scars to heal and perhaps there would be permanent scarring. Would warn anyone against having this done.

Posted by: michelle johnooston 09:56pm Friday 19th June
Comment 13 of 72

It is unfortunate, and my wishes go to that this heals up sooner rather than later, at all levels. Consent to something that is supposed to be temporary should be just that. For someone to provide or sell a temporary tattoo that has a permanent effect should be marked as criminal.

Posted by: Marco Grigull of Brisbane 09:40pm Wednesday 17th June
Comment 14 of 72

this is disappointing really, what are people thinking these days. now that little boy is stuck with that mark. he's adorable too. im sorry to hear about this.

Posted by: hayleey of tasmania 11:56am Sunday 14th June
Comment 16 of 72

Hi My daughter went to Bali for schoolies some 10yrs ago and the same thing happened to her. She spent a month on steroid treatment and today when she gets out in the sun the welt appears as it did all those years ago it is for life. She only did to upset her Mum as a joke now shes stuck with it forever.

Posted by: Yvonne Byrne of Australia 11:53am Friday 12th June
Comment 18 of 72

THAT looks pretty cool though

Posted by: James of t 09:56pm Tuesday 9th June
Comment 20 of 72

Too bad for the child, but parents have to be parents. A 9-year-old child with a dragon on his arm? If you want your kid to be "cool" and "fit in", now you've got it!

Posted by: Dave H of Pennsylvania, USA 09:55pm Tuesday 9th June
Comment 21 of 72

When are people going to grow up. Tattoo's are not cool and they are not for kids. Even though mum and dad and kids were enjoying their holiday experience I don't believe we should be glorifying the tattoo craze. Tattoos are for adults, permanent or temporary. Not for kids. I hope all works out for the family and the horrible mark disappears. Good on you for telling your story as a warning to others.

Posted by: Trish Henderson of Perth W.A 07:52pm Tuesday 9th June
Comment 22 of 72

i never had a henna tattoo but i feel so sorry for you. it must be real hard for your son to cope with. he's a bit young for a henna tattoo-only 5yrs old!!!

Posted by: Alicia of Trenton 06:49pm Tuesday 9th June
Comment 23 of 72

About 4 yrs ago I went to Bali with 3 other families. There were 3 kids and 6 adults in total. We all got tats. My son, who was 3 at the time chose a superman tattoo. Believing it was henna, a supposedly 'safe' product, I didn't think anything of it. Unfortunately he had the same reaction, which eventually after a few weeks cleared. But 4 yrs on, the Superman mark is still present. He has gotten use to it, and thinks it's pretty cool. I'm sure your son will to.

Posted by: Fay of Australia 04:05pm Tuesday 9th June
Comment 24 of 72

We took our kids to Bali in 2004 with some relatives. I didn't want them to get tattoos as I had heard of some horrible stories, but after a day out with this aunty my then 6 yr old came back with a barbed wire tattoo around the top part of his arm. I freaked out. When we got home it started to fade, I saw the redness and scabbing. I kept putting creams on it. It ended up leaving its mark for a few months but did disappear. Now they know why their mean mum didn't want them to get a funky tattoo.

Posted by: Amanda 01:37pm Tuesday 9th June
Comment 25 of 72

It is unfortunate that it has happened but damn! That's gonna be one unbelievably cool scar!

Posted by: PBO 10:41am Tuesday 9th June
Comment 26 of 72

My teenage son had the same reaction except his whole body came out in an extremely itchy rash and he had to take steroid tablets for a month. It was exactly the same tattoo as well. The swelling and redness lasted about 3-4 months. There is no sign of it now. For the record my other son had no reaction... As usual Buyer Beware.

Posted by: Bev of Perth 10:28am Tuesday 9th June
Comment 27 of 72

John, Sorry you found out about this the hard way. I see this as something harmless that went bad. No bad intentions or extreme stupidity on your part. Just bad luck. Now, enroll that boy in some kick-ass martial arts so he won't have to back up that tattoo in 10 years ;)

Posted by: Scott of Indianapolis, USA 06:58am Tuesday 9th June
Comment 28 of 72

If it's black, it's not henna. It's PPD, it's been around for years, it's been causing problems for years.

Posted by: Jammie 05:54am Tuesday 9th June
Comment 29 of 72

henna is not the problem, its 'black henna'. henna is naturally a redish brown plant based stain. 'black henna' is just chemically enhanced dyes. allergies to 'black henna' causes the welts and scares. asian countries have been body painting with henna for centuries. these stories pop up a lot in the news, its a shame this boys parents hadn't heard of it. and they didn't intentionally harm their child. all parents are 'guilty' of accidently giving their child a scar scrape, or bruise. lay off

Posted by: sara 05:25am Tuesday 9th June
Comment 30 of 72

The same thing happened to me when I was in Panama City, FL. I got a henna tattoo and it scarred my back. Now I have this "tattoo" that I didn't want to keep forever.

Posted by: Hayley C of Arkansas 04:30am Tuesday 9th June
Comment 31 of 72

I had the same thing happen to my son a few years ago. He got a temporary "henna" tatoo in Virginia Beach, and it did the same thing. As soon as the color wore off, he was left with a big whelp in the exact shape of the tattoo. He's 9 now and the only long term effects are that he now has a "sulfa drug" allergy that will stick to him the rest of his life, and small little areas on his arm where the tattoo was that has lost pigment.

Posted by: Amanda of USA 01:59am Tuesday 9th June
Comment 32 of 72

I've been out of Sydney two years, and its disappointing to read how callous so many readers are! How many parents have let their kids have face painting or a temporary tatoo (millions and millions I am guessing). Why is everyone here blaming the parents? Kid, if its permanent, at least its a good tattoo, enjoy it while you have it... Mum & Dad, you are not to blame!

Posted by: Dad of Singapore 01:57am Tuesday 9th June
Comment 33 of 72

I got a Henna tatoo while on vacation in Florida a couple of years ago. I did everything I was instructed to do like keeping vasoline on it when I went swimming or took a shower. After about 2 weeks my skin around the tatoo got red and itchy and started to burn. Over time the tatoo went away but it left a perfect outline of the tatoo. After about 2 years that finally went away. I don't think I'll be doing that again.

Posted by: Martha H. 01:56am Tuesday 9th June
Comment 34 of 72

Sweet tat dude. I think the kid looks well tough. Although I dare say this is the start of an obsession for the kid, perhaps leading him to a life of drugs, crime and eventually jail. Quick enrol the kid in a private catholic school and help him find God.

Posted by: Jeremy 01:31am Tuesday 9th June
Comment 35 of 72

I have been to Bali many times and have had henna tats done the first few times with no reaction to the henna. But in 2004 I had the same effect as this lad and a few in the know told me that it was due to the petrol that is added to help aid the speedy drying of the tat. The red welting went away by itself after about 3 months. I have had a few permanent tats done over there since and am very happy with them.

Posted by: Bruce Sutherland of Burta Station 12:27am Tuesday 9th June
Comment 36 of 72

I had the same type of mark of a dolphin over my belly button. Elocin steroid cream clears it up and stops the itch. It takes a couple of weeks but doesn't scar. Only happens when you have sensitive skin. Sad thing is that was 1999 I thought they would have found something better to use by now!

Posted by: Sammy of Hornsby 10:58pm Monday 8th June
Comment 37 of 72

I realise that it wasn't intentional - but I actually think it looks kinda cool, and with any luck it may be something for him to grow up and be proud of.

Posted by: paul 10:54pm Monday 8th June
Comment 38 of 72

I actually think it looks pretty cool

Posted by: Tattooed of Gold Coast 09:52pm Monday 8th June
Comment 39 of 72

I feel sorry for the parents and the poor boy as they were in a holiday mood and just had a bit of fun. I did not know about the side effects and am thankful that I do know about it now. My cousins were not allowed any face paint or tattoos and one of them is a walking tattoo. I could do the fake tattoo thing and I have no intention of ever having a tattoo. By not letting your kids have some fun, they may rebel against it later.

Posted by: H of Brisbane 09:39pm Monday 8th June
Comment 40 of 72

Well I for one would like to say... Thank you John, for bringing this to my attention. I had no idea it could cause such a violent reaction! I won't be letting my kids get one...ever!

Posted by: jenni of WA 09:14pm Monday 8th June
Comment 41 of 72

The chicks are gonna dig that when he hits grade 6! And to the losers bagging the parents, get a life, I'm sure if they knew the outcome, they wouldn't have got it done. At least it's a cool dragon, not a rainbow...

Posted by: Big D of Adelaide 09:12pm Monday 8th June
Comment 42 of 72

These "henna" tattoos are sold in Bali like children's face painting is sold at local fetes in Australia. They are seen as natural and safe and are very attractive for children for fun. It is not anybody's fault that this reaction occurred. Hopefully it will get better and be forgotten.

Posted by: sharyn of Bass Coast 08:43pm Monday 8th June
Comment 43 of 72

To "Do in Bali..." actually I'm pretty sure it's not uncommon for kids to get henna tattoos. Especially Indian/Malaysian/Indonesian kids who use them for cultural ceremonies, but they usually use the red, not

black henna. fran of sydney... are you serious? Most people who have an issue with tats coz tats are PERMANENT. Face paint/henna isn't! I got face painted all the time as a kid and am not about to go out and get a tattoo.

Posted by: Leah of Queensland 08:04pm Monday 8th June
Comment 44 of 72

My daughter had the same reaction to a temporary Bratz tattoo bought in a pack from Kmart. She had a reaction, it has somehow burnt into her skin, that was about 2 years ago now, still there!!!

Posted by: Nikki of Melbourne 08:04pm Monday 8th June
Comment 45 of 72

For heaven's sake lay off the parents! If I had been able to afford a holiday to Bali when my son was 5 then he probably would have wanted a tattoo while he was there and I probably would have let him! Thousands of people have it done and it appears to be just another part of a Bali holiday to many. Hopefully Cannon's tattoo will fade over time. Congratulations to his parents for going public and warning others!

Posted by: Di 07:22pm Monday 8th June
Comment 46 of 72

Should have got him a lightning shaped one on his forehead, would save a lot of trouble at dress up parties in the future, you could just say he is Harry potter

Posted by: T of Perth 07:03pm Monday 8th June
Comment 47 of 72

Holidays are all about letting the children do things they wouldn't normally do. Hair braids, fake tattoos, roller coaster rides, snow skiing, trying foods they might never usually try. Children have been reacting to these henna tattoos for years, it's nothing new. The redness will go away, eventually. We are all experts after the fact. Hope you all had a great holiday.

Posted by: Chris of Perth of Perth? 07:00pm Monday 8th June
Comment 48 of 72

anyone here should know that during a trip to bali it is not rare to see people with these tattoos, there temporary (so were told), fun and a good experience if you've ever wondered what you would look like with a tat. i too have had a bad experience with a henna tattoo if u wanna see my pics go to http://i148.photobucket.com/albums/s8/pkortum/IMG_6671.jpg

Posted by: patrick 06:51pm Monday 8th June
Comment 50 of 72

Never heard of this before and can see how it could happen. "Oh don't worry. It'll just wear off". Yeah, right. You might try tea tree oil and aloe - works wonders on sunburn! All the best.

Posted by: Wayne 06:40pm Monday 8th June
Comment 51 of 72

I hope it all works out ok for you son. Give this poor mother a break. Obviously she didn't know the risks or I doubt she would have done it! A lot of people do know about this happening but that doesn't mean everyone knows and good on you for trying to raise awareness. I'm in Bali at the moment and my partner wanted to get a real tattoo on the buck's night he was on last week. I said no and he listened thank goodness.

Posted by: megan of holidaying in kuta 06:12pm Monday 8th June
Comment 52 of 72

I think it looks kinda cool, as long as its not hurting him to much he would be the raddest kid in school.
Much respect + + and thats what its all about these days..

Posted by: adrian 06:03pm Monday 8th June
Comment 53 of 72

We have recently returned from Bali where myself and husband both had henna tattoos done. I was fine but my husband ended up with his infected and having to have antibiotics, it has healed well now. This is the second time he has had it done both times he has had a reaction this time worst than the last....do you think he's learn't his lesson!!!

Posted by: Chrissy of Perth WA 05:32pm Monday 8th June
Comment 54 of 72

Henna can be done safely, just stay away from black henna. it has extra dies and such to make it black, which is what people are allegic to.

Posted by: Kuz of Brisvegas 05:32pm Monday 8th June
Comment 55 of 72

Thats awesome, if this does stay with him least it will be something for him to tell his kids!! least he did not chose to have something girly tattooed on his arm...

Posted by: michael of brisbane 05:30pm Monday 8th June
Comment 56 of 72

Honestly why are people blaming his parents? I have never heard of such a thing happening and whats so bad about letting a 5 year old get what you THOUGHT was a temporary tattoo?? Lots of children love them and mind you now I've read this story i may think twice but i wouldnt of hesitated letting my child get one.. I thank the parents for bringing what can happen to my attention and i hope his mark will soon dissappear.!

Posted by: Jess of ACT 05:29pm Monday 8th June
Comment 57 of 72

Temporary tattoos on kids is nothing unusual. It it commonly performed at school fetes. Traveling overseas without checking the government website for travel warning is plain stupid!! There is a warning about these hemp tattoos. People should expect to run into trouble if they dont look beforehand.

Posted by: M` 05:19pm Monday 8th June
Comment 58 of 72

I too had temporary tattoos done in bali and the exact same thing happened to me. All I can say is that my doctor prescribed cortisone cream and it did eventually go away without leaving any scars. I hope that this will be the case for Cannon.

Posted by: Samantha Blake of Adelaide 04:46pm Monday 8th June
Comment 59 of 72

I understood it to be common knowledge that you don't go getting henna tattoo's in Bali. Its been happening for many years with people coming back with reactions. People need to research more and stop being so blind and naive. I dont see why a child needs a tattoo in the first place.

Posted by: L of Perth 04:38pm Monday 8th June
Comment 60 of 72

Thanks to all of you who curse me for letting my son having the Henna tattoo I am very regretful of the incident. I am telling my story so theirs can also tell theirs and hopefully this will happen to fewer children. This is very common and the more people publicise it and not criticise it we may get some greater awareness. I am so glad to hear that some of you have a better knowledge than me and I am glad you don't let your children get painted.

Posted by: John 04:13pm Monday 8th June
Comment 61 of 72

It is fairly common knowledge that Henna can cause allergic problems for quite a large proportion of people. Back 25 years ago I used to use a Henna colour shampoo and there were warnings on the bottle. Also perhaps long term use could be carcinogenic it stated. It is so weird that people choose to have things done in Bali that they wouldn't do here (tattoos, piercings, henna tattoos) and certainly you wouldn't allow a minor to have a even a henna tattoo done here? So why Bali? Just weird!

Posted by: Do in Bali what you would do here! of Perth 03:34pm Monday 8th June
Comment 62 of 72

If you don't want your 15 year old coming home with a tatoos then don't train them when they are young to think a tatoos is OK. It is not just the paint it is the whole idea of tatoos that you either are for or against. I never let my children get painted up at parties and thank goodness they grew up without wanting tatoos.

Posted by: fran of sydney 03:32pm Monday 8th June
Comment 63 of 72

I am so glad to see this is being published. My 16 year old son had the same reaction from a henna tattoo in Bali last year. His arm was weeping for around 4 weeks and affected his respiratory system. We had him in hospital for 3 days in October and then in December he went shopping and had a severe allergic reaction after trying on some clothes and ended up with another 3 days in hospital. He is a very healthy teenager and plays sport 7 days a week I couldn't believe how this took him down.

Posted by: John 03:31pm Monday 8th June
Comment 64 of 72

I don't think they need to worry. The same thing happened to my husband, but after a few weeks al was well not leaving any scar's. This seems to happen mostly to people with fair (very pale) skin. I had one done and I didn't have any problems and I had mine done at the same time as my husband

Posted by: JENNI of western australia 03:07pm Monday 8th June
Comment 65 of 72

Everybody who travels to Bali knows you do not get a temp tattoo done especially as a child! Im so glad my dad kept to his word even when I was throwing tantrums with those tattoos..

Posted by: Mish of Seminyak, Bali. 02:52pm Monday 8th June
Comment 66 of 72

stop dishing on the parents - I've never heard of it before and clearly if the parents had, they wouldn't have done it either - most normal parents do love their kids, some of you posters should think before you speak

Posted by: kate 02:43pm Monday 8th June

Comment 67 of 72

I got one of these tattoos in bali last year thinking i was doing the responsible thing instead of getting a permanent one... not knowing the dangers. Same thing happened to me and stayed red for about a month. After that it all heeled up and did not scar. Definately wont be doing that again

Posted by: xxx of Perth 02:30pm Monday 8th June
Comment 68 of 72

Looks great. The kid will learn to like it (if he doesn't already)

Posted by: Col of Canberra 02:28pm Monday 8th June
Comment 69 of 72

Doesn't everybody knows it's not safe to put anything like that on your skin, especially on young skin. Face painting for kids? Why risk it?

Posted by: Avril 12:15pm Monday 8th June
Comment 70 of 72

As much as I feel sorry for the kid, people were warned a few years ago of the effects of PPD, and not to get henna tattoos, it was all on the news and the like.

Posted by: clawd 09:49am Monday 8th June
Comment 71 of 72

How ridiculous to let your five year old get a henna tattoo in Bali or anywhere else. It has been widely known that there have been problems from these so called safe tattoos for years and in any event, why would you let your 5 year old get one? Some parents just cannot say "No".

Posted by: Allan of Gold Coast 08:49am Monday 8th June
Comment 72 of 72

⁶⁸⁵ "Henna tattoo warning." *North Coast Times* (Perth, Australia). June 22, 2010 Tuesday . Date Accessed: 2013/06/02. www.lexisnexis.com/hottopics/lnacademic.

Cheryl Mollross with her son Liam and, inset, the reaction caused by the temporary Henna tattoo Liam received in Bali.

A MERRIWA mum wants to warn families visiting Bali during the school holidays to avoid people peddling harmless henna tattoos after her nine-year-old son had a serious reaction to one.

Cheryl Mollross said her son Liam had the temporary tattoo applied to his chest while they were on the beach on Saturday June 12, but on the plane home the next day, he started complaining of discomfort.

I had a look and tried not to panic him, but the whole area around the tattoo had come up in painful, itchy blisters, she said.

Mrs Mollross took Liam, who celebrated his ninth birthday last Friday, to a doctor where he was given antibiotics.

They didnt help so I ended up having to take him to the emergency room at Joondalup Hospital on Tuesday, she said. The specialist told me tattooists often add a chemical (phenylenediamine) to the henna so that it dries quicker and that is what probably caused the reaction.

The hospital gave Liam steroid cream, and Mrs Mollross said the improvement had been amazing. However, she said parents should think twice before letting their children get a henna tattoo.

People kept coming up to us offering us the tattoos like they were selling sarongs or souvenirs, she said.

I would advise people not to get any tattoos done while they are in Bali because it is really not worth the risk.

⁶⁸⁶ Emma Brennan. "Henna tattoo leads to emergency department visit." *North Coast Times*. In My Community.

June 21, 2010 <http://www.inmycommunity.com.au/news-and-views/local-news/Henna-tattoo-leads-to-emergency-department-visit/7559611/> (accessed September 9, 2013)

What everyone else is thinking

liam

06/11/2012

hey its liam when i got the tattoo, it looked cool because i got it because my dad has a tattoo in the same spot.it hurt when i went to jundulap hospital, i mett this person their and described what happend it will be a memory i will never forget

PS DONT GET A HENNA TATTOO !!!!!

Jackie

19/09/2010

My children both had reactions to these stupid dangerous tattoos 2 years ago. This should be a travel WARNING to Bali. The long term effects is that they can be forever hypersensitive to dyes that contain the chemical PPD. Spread the word people these are extremely dangerous for all ages and not worth the risk. My children still have the scars!

Jessi

29/06/2010

This is not real natural henna. This is what is called "black henna." Unscrupulous henna artists often use black hair dye called phenylenediamine or PPD to make a temporary black tattoo. Natural henna never stains black and has a very low rate of sensitization. If the henna will stain brown, orange or red, then it most likely safe. The #1 safe guard to use when getting henna tattoos is to ask the artist what is in the henna. If they won't tell you or they don't know, then don't get the tattoo. Also, if they tell you it is safe but it is supposed to stain black, DONT GET IT!

ann schmidt

21/06/2010

It makes me wonder as i have never travelled overseas if there is a warning message that should be given to you on booking your flight.As i have heard of this happening before wouldnt it be better to prevent than treat.What other dangers lurk in other countries that are commonly happening but only get passed around on the grapevine.Its really not good enough for this day and age is it?This poor boy went through pain for no good reason in my book.

jackie

21/06/2010

I am heading to bali in August for the first time & will be staying clear of these tattoo's. YThanks for the advice.

Debbie Peirce

21/06/2010

A friend who is actually 59 years old, had the same reaction twice.
He now has a scar of a nine legged spider.

dave27
21/06/2010

I feel for this young boy. I too returned from Bali in May 2010, with a henna tattoo on my arm. It wasn't until I returned to Perth that it started to get itchy and start to form blisters. (3 days after getting it applied). It has now gone from my arm and thankfully hasn't left a permanent scar. To anyone travelling to Bali and you get a henna tattoo read the bottle if it has PPD, para-phenylenediamine (also known as BLACK henna, do not get it henna tattoos should be a caramel colour, in fact stay clear of them in Bali all together. Chin up mate.

⁶⁸⁷ Kathleen Donaghey. "Henna tattoo leaves boy with scar." *News Gold Coast*. June 8, 2009.

http://www.goldcoast.com.au/article/2009/06/08/86241_gold-coast-top-story.html (accessed September 9, 2013)

⁶⁸⁸ Laura Jones. "THE HOLIDAY TREAT THAT SCARRED BOY; Mum tells of henna tattoo nightmare" ."

Liverpool Daily Echo. August 26, 2010 Thursday . Date Accessed: 2013/06/02.

www.lexisnexis.com/hottopics/lnacademic.

A SEVEN-year-old boy may be scarred for life after getting a henna tattoo while on holiday in Spain.

Kim Backhouse was horrified when the temporary tattoo she thought was just a bit of harmless holiday fun left her son Joseph's skin blistered and burnt.

After Joseph's skin erupted in the painful rash, doctors at the Allerton Road walk-in centre referred him to specialists at Alder Hey and told his worried family there was a risk of permanent scarring and blood poisoning.

The family's nightmare started in the Costa Blanca, Spain, where Mrs Backhouse, her husband, son Joseph and his four-year-old sister Emily were all staying in an apartment.

Mrs Backhouse, of Milton Avenue, Huyton, told the ECHO: "Loads of other people were letting their kids get them done - there was a big queue.

"On this particular night, I said 'oh, go on then, let's get it done'.

"Nobody was telling anyone it could cause serious skin reactions."

After paying seven euros for what she believed was a temporary tattoo which would fade from Joseph's skin leaving no permanent trace, Mrs Backhouse and her family enjoyed the rest of their break.

It was only when they got back to Merseyside the seven-year-old began to complain of a rash.

The mum-of-two said: "We came home on Thursday and he was going to football practice on Saturday when he started complaining about his arm. The chemist told me to take him to the GP on Monday, but it got worse and we had to go to the walk-in centre.

"Joe was very itchy and sore - the skin underneath the tattoo started to blister and became very inflamed."

After assessing the Malvern primary school pupil, medical staff referred him straight to the plastics and burns unit at Alder Hey.

Henna is a natural plant extract which is often used without any ill effects to create temporary tattoos which are painted on to the body and fade away in under two weeks.

But when henna, which is naturally red in colour, is mixed with black dye it can cause skin burn s.

Mrs Backhouse said: "The henna tattoo can go in the blood stream and cause blood poisoning.

"When they told me the dangers, I was just panic-stricken and so ashamed of myself.

"I am absolutely appalled these people can get away with putting children at risk from these tattoos.

"I also feel very embarrassed and ashamed at myself for allowing my children to have them done, but I did not know of any risks."

Joseph now has an anxious wait to find out whether he will be left with a "ghost" scar.

His mum wants him to have a full health check to make sure he has not picked up any infection.

She said: "The scar is bright red with blisters all over the arm - you can see the outline of the tattoo.

"I would advise other parents never to let your children have a henna tattoo, because you just do not realise the reactions they can cause."

⁶⁸⁹ Daily Mail Reporter. "Seven-year-old boy, left burned, blistered and scarred by another henna 'tattoo' horror."

Mail Online. August 26, 2010.

<http://www.dailymail.co.uk/news/article-1306308/Seven-year-old-boy-left-burned-blistered-scarred-henna-tattoo.html> (accessed September 9, 2013)

Stupid parents are allowing this to happen!!!

- Furious , London, 26/8/2010 13:50

Now this poor boy is scarred because of his stupid parents. Why on earth would you want a tattoo on a 7 year old, henna or otherwise, how common. Anyone with a small level of intelligence knows henna can cause allergic reactions, especially from an unlicensed and probably dirty tattoo stall in a foreign country.

- Katie , London, 26/8/2010 13:32

Are the British born dim, or just taking lessons.

- Man from Laramie , Czech republic, 26/8/2010 13:27

Yet another child having to pay the price of his parent being unable to say NO.

- Claudia , Cloud 9, 26/8/2010 13:24

she shouldnt have let the seven year old think that tattoos are cool in the first place!! he might think twice when he is older before he scars his skin again.

- lou , yorkshire, 26/8/2010 13:15

He's 7 - why on earth give him a tattoo, whether it's permanent or not? Nice way to bring up your child.....

- Clair , UK, 26/8/2010 13:12

This is such a shame because there have been reports of this in the press before. However Joseph's mum should not be embarrassed or ashamed because she simply did not know about the the possible risks and it

looks so harmless. We mums don't know everything. Hopefully Joseph will be OK and will have no ghost scarring.

- May , Glasgow, 26/8/2010 13:06

How many of these stories people must read before they realize that these henna tattoo on holiday spots are dangerous? Don't parents read magazines of newspapers or anything? Almost every week there is a story like that here. Read to educate yourselves!

- Elena , Nicosia, Cyprus, 26/8/2010 12:58

This is the third story Ive seen this summer about henna tattoos and I dont know how many more Ive seen over the past few years - dont people consider the risk of the tattoos. Now this poor child is scarred for life.

- Kat , Stockport, Cheshire, 26/8/2010 12:50

⁶⁹⁰ "Henna holiday hell as temporary tattoo leaves boy scarred and suffering life-long allergies." *Mail Oline*. August 9, 2010. <http://www.dailymail.co.uk/health/article-1301519/Henna-hell-temporary-tattoo-leaves-boy-scarred-life-long-allergies.html> (accessed September 12, 2013)

When nine-year-old Thomas Collins begged his mother Katie for a couple of temporary henna tattoos while on holiday in Turkey, she agreed - thinking it would be harmless fun.

But the young boy suffered a severe allergic reaction to the black dye and has been left with permanent scarring on both his arms. He is now allergic to everyday household products as well.

Thomas Collins, 9, with his mother Katie. Thomas is now allergic to rubber and hair dye after his severe reaction of the black henna on holiday

Thomas Collins, 9, with his mother Katie. Thomas is now allergic to rubber and hair dye after his severe reaction of the black henna on holiday

Thomas was on holiday with his mother Katie, 31, father Graham, 37, who works for an engineering firm, and older brother Jordan, 13.

He spotted the black henna tattoos advertised by the poolside at their hotel. He chose to have a tattoo on each arm - one of Bart Simpson and one a skull design with his name underneath.

'It seemed like fun, and the tattoos only cost five euros each,' said Ms Collins, a nail technician from Lancashire.

'Plus, the man doing the tattoos was based in the hotel complex, so I assumed it would be safe. It's not like we had gone down some dodgy backstreet.

'The guy who gave Thomas the tattoo even offered him a free 'top-up' on the day we were leaving, which Thomas had as it was free of charge.

'The tattoos faded after a few days, but about a week or so after we got home Thomas started complaining that his arms were itchy and painful. He was in agony and had a really high temperature.

'When I looked at his arms, I saw the outlines of the tattoos had been replaced by angry red blisters. It looked awful - the blisters were raised and even looked a greeny-yellow colour in some places. His arm was weeping and fluid was seeping out where the tattoos had been.'

Thomas Collins on holiday with his black henna tattoo

Enlarge Thomas Collins

Thomas Collins had a skull design tattooed on his arm (left) with black henna - he suffered a painful allergic reaction days later (right)

Ms Collins immediately took her son to the doctor, who prescribed antibiotics and a cream to stop the itching. Thomas was referred to a skin specialist who explained that the boy had suffered a severe allergic reaction to paraphenylenediamine - a chemical commonly found in hair dye and sometimes added to henna to make 'black henna'.

Natural henna tattoos, which are brown or reddish colour, are usually completely harmless. But the black variety can cause serious allergic reactions.

Some children are known have been hospitalised after receiving the temporary tattoos and, in the most severe cases, sufferers can require plastic surgery.

'I'm just glad Thomas didn't have the tattoos all over his body,' said Ms Collins.

'The doctor said that he had one of the worst reactions he had ever seen.'

The allergic reaction lasted for two months and once Thomas recovered, the family hoped their ordeal was behind them.

But he has since developed allergies to certain medications, including some local anaesthetics, and is now allergic to everyday items such as printer ink, rubber boots, lawnmowers, squash balls and even sun cream, all triggered by the initial reaction in Turkey.

'Thomas is really upset now that he's coming to realise he can't touch certain products,' said Ms Collins.

'I work in a hairdressing salon and he can't go near someone who's wearing foils. He once sat down on the chair and his face started to blister, so he must have come into contact with some hair dye. We're now really careful to brush down all the chairs whenever he comes in.

'His everyday life has really been affected. His skin is super sensitive now and he has to bathe in a thick moisturiser because he can't use normal soaps.

'Thomas is devastated that he can't do certain things now. He came home from school the other day and told me he can't play rounders anymore because the bases on the pitch are made of rubber. He knew he would have an allergic reaction and was too frightened to touch the balls.

'He's just a little boy now but it's going to affect him even more when he's older. He might want to be a car mechanic, but that won't be possible because he can't come into contact with rubber, and he can't be a photographer, another thing he was interested in, because of his allergy to inks.'

Lindsey McManus of Allergy UK, said: 'People can come into contact with allergens all their life with no problem, but then suddenly something triggers a reaction.

'In this case, Thomas's reaction may have been the result of a very strong exposure to PPD. What is often called 'black henna' contains PPD and is not henna at all. You need to be very careful. Once you become sensitised to PPD you can react to it at any time - and the reaction can be very nasty. The danger is that if he was exposed to it again, he could have an even more severe reaction.

'Children will always want these tattoos when all their friends are having them done, but I'd advise parents to avoid them. And always look at the ingredients first. It usually takes a few days to trigger a reaction, so families often don't realise what's happened until they return home from their holidays.'

Meanwhile, Thomas's mother is worried that her son's life will never return to normal.

'It's taken a good few months for the red marks on Thomas's arms to go,' said Ms Collins.

'It was a really frightening experience that I wouldn't wish on any other family. People should be aware of how dangerous these tattoos really are.'

⁶⁹¹ Daily Mail Reporter. Nine-year-old left permanently scarred after having 'temporary' henna tattoo of a shark on holiday. *Mail Online* May 3, 2010. <http://www.dailymail.co.uk/news/article-1271041/Nine-year-old-left-permanently-scarred-having-temporary-henna-tattoo-shark-holiday.html> (accessed September 12, 2013)

A mother today warned of the dangers of 'temporary' henna tattoos after her nine-year-old son was left with a permanent scar of a shark.

Owen Rigby suffered horrific burns to his right arm after a street artist gave him the shark design on holiday in Gran Canaria.

His mother Leanne Clennell, 30, was told the tattoo would last a month, but within days Owen's forearm began to bleed and blister as his body reacted to the powerful dye.

A doctor placed the schoolboy on a course of antibiotics after the family returned to their home in Telford, Shropshire, on April 5.

But Owen now has a five-inch red scar of a shark on his arm, which doctors fear could remain for the rest of his life.

Ms Clennell today spoke of her 'heartache' at allowing her son to have the tattoo.

She said: 'It has been very painful for him. It actually burnt his skin and it has got infected now.'

'I have had to take him to the doctors twice, he was in agony. His arm was so hot you could have fried an egg on it.'

'It looks awful and I think he will definitely be scarred from it. The doctors have said it could be permanent.'

'If I knew then what I know now I would never have allowed him to have it done.'

'It was done by someone right outside the hotel but I have been told these people put peroxide in the dye to make it last longer. It just looks a mess.'

Owen, pictured with his mother Leanne Clennell, was placed on a course of antibiotics after he returned home to Telford, Shropshire, last month

Owen, pictured with his mother Leanne Clennell, was placed on a course of antibiotics after he returned home to Telford, Shropshire, last month

She added: 'I would tell parents not to let their children get one, it's just not worth it.'

'It was meant to last for 30 days but the dye came off in two or three days, it has caused a lot of heartache.'

'When you're on holiday you just don't expect this kind of thing to happen.'

'He only had it done as a bit of fun but looking at him now he is in a lot of pain.'

'I had to take him out of school and he is on antibiotics to treat it.'

Since returning from holiday, Owen has suffered almost constant pain and has to date missed two weeks of school.

He said: 'It was itchy at first and then it started burning me. It is very sore and I think it's going to scar. I feel pretty sad.'

Owen's horrified grandmother Audrey Clennell said: 'I could not believe it, it looks very sore and it just goes to show you can't trust these people who are selling them.'

Henna, a natural plant extract, fades within ten days and is usually completely harmless. But many unscrupulous artists mix henna with a cheap hair dye called PPD - paraphenylenediamine - which can burn the skin.

⁶⁹² Halliday, Josh (21 December 2010). "Guardian.co.uk passes 40m monthly browsers". *The Guardian* (London).

<http://www.theguardian.com/media/2010/dec/21/november-abce-guardian-mail-online> (accessed January 20, 2013)

⁶⁹³ "Warnings issued for black henna tattoos" March 25, 2013. Examiner.com

<http://www.examiner.com/article/warnings-issued-for-black-henna-tattoos> (accessed September 14, 2013)

Some mendhi artists have been using a mixture of henna and PPD (p-phenylenediamine), a chemical known to cause severe skin reactions, and not legally permitted for use on skin. Others are substituting plain black hair dye. In any instance, customers who experience any problems often have no way of contacting the source, as many of the artists set up temporarily (remaining not even as long as the tattoos) in locations where many young people—their main customers—congregate. The sufferer's only recourse is to have the injured skin attended to medically. There won't be much chance of a monetary refund, or information concerning ingredients of the dye used.

The best advice here is to either stick to regular red henna dyes for temporary tattoos, or better yet, forget the whole idea. When you consider the possibility as strong for a negative reaction, possibly even serious, with the risk of permanent damage to your skin, is it worth it for a short time of amusement, not to mention shelling out a fair amount of cash? Of course, many of us (not just youth) live for the moment and don't consider anything that's fun as a possible danger. Think of the outcome you could end up with, though, investigate the facts available, and make an educated choice. It wouldn't be the first (nor last) time a brief episode of fun turns out to have long-lasting nightmarish results.

If you do have a bad reaction to black henna or any cosmetic product, please contact the FDA's MedWatch to report the incident: <http://www.fda.gov/Safety/MedWatch/HowToReport/default.htm> or phone them at 1-800-FDA-1088.

⁶⁹⁴ "Temporary tattoo brings lawsuit against Opry Mills Mall" *News 2 WKRN* Nashville, Tennessee. Posted: Aug 06,

2009 <http://www.wkrn.com/story/10862240/temporary-tattoo-brings-lawsuit-against-opry-mills-mall> (accessed

September 11, 2013)

NASHVILLE, Tenn. - The mother of a 12-year-old Middle Tennessee girl is suing Opry Mills Mall management and the owners of a henna tattoo business inside the mall for a tattoo she says could scar her daughter for life.

Mt. Juliet attorney Stephen Grauberger is representing the family, whose identity is being protected.

The girl was 11-years-old when she received the tattoo last summer.

It was only supposed to last long enough for a softball tournament but one season later, a scar where the tattoo was remains on her arm.

"She went to this henna place to [get] a tattoo with her softball team's logo, the name of the team and her number," Grauberger explained. "The next morning, the daughter woke up in pain."

The tattoo of a snake and the phrase "Strikers 17" had blistered her arm and once a blister popped, Grauberger said another blister rose underneath it.

"It was burning, it was itching... It was just a tremendous amount of pain this young girl was in," he said.

In general, the henna tattoo process is under a lot of criticism.

Black henna, the type of natural chemical used in black hair dye, is known to burn the skin of people who have allergic reactions to it.

Grauberger said, "It is only approved for use in a watered down formula for black hair dye."

The FDA has not approved black henna for anything other than hair dye and is seeking to ban black henna for anything that touches the skin.

The henna tattoo kiosk operating in Opry Mills Mall displays a small sign warning of the risk of allergic reactions but allows anyone over the age of 12 to get a tattoo without parental approval.

Since needles aren't used, health officials don't inspect the business.

Grauberger says Opry Mills' management is at fault "for allowing this business to operate. They're endorsing this business by making them available to visitors of the mall."

News 2 contacted management at Opry Mills Mall, who declined to comment on the claims.

Grauberger says the young girl is still recovering, and the family has not yet determined the amount it will seek for damages.

He said doctors may try a bleaching method to even out the color of the skin on her arm but have no guarantee it will remove signs of the tattoo.

⁶⁹⁵ "Vanderbilt doctor advises against black henna tattoos" *WKRN TV-2*. August 07, 2009

<http://www.wkrn.com/story/10868928/vanderbilt-doctor-advises-against-black-henna-tattoos> (accessed September 11, 2013)

NASHVILLE, Tenn. - A Vanderbilt dermatologist is advising people to watch out for so-called black henna tattoos because they can pose a serious health risk.

"The black henna tattoos actually have an additive in them, paraphenylenediamine, and that additive... causes them to be black, causes them to last longer but also causes allergic reactions in some people," said Dr. Michel McDonald.

According to Dr. McDonald, as many as 15% of people may be allergic to the additive.

April Smith is one of them.

She got a black henna tattoo at a kiosk in Opry Mills Mall in April and it's still on her back and it's still painful.

"It started burning and it scabbed over like I had gotten a real tattoo," she said. "I tried everything to get it to come off and it's still there. It's August and I got it in April."

Smith saw a News 2 report on Thursday about a then 11-year-old girl whose black henna tattoo scarred her entire left arm.

The girl's family is suing Opry Mills Mall management and the owners of the tattoo kiosk.

Her identity is being kept private.

Dr. McDonald warns parents to be aware of the risk and the popularity of the tattoos.

"If the tattoo color is black on the poster that they're showing, not red, if they say it's going to last a long time like one to two weeks, I would not let your child get that," he said.

Dr Donald said if a child does have an allergic reaction after getting such a tattoo, get to a doctor quickly as quick treatment may prevent scarring.

News 2 contacted Opry Mills Mall management on Friday but there was no response.

It is unclear if the henna tattoo kiosk in the mall now is the same one that applied the tattoo to the young girl last summer.

It is, however, the same kiosk where Smith received her tattoo earlier this year.

⁶⁹⁶ Tristessa. "DO NOT get a henna tattoo on the Parkway. Very real danger." Posted to Trip Advisor Forum July 7, 2008. <http://www.tripadvisor.com/ShowTopic-g60842-i150-k2095391->

[DO NOT get a henna tattoo on the Parkway Very real danger-Gatlinburg Tennessee.html](http://www.tripadvisor.com/ShowTopic-g60842-i150-k2095391-DO_NOT_get_a_henna_tattoo_on_the_Parkway_Very_real_danger-Gatlinburg_Tennessee.html)

(accessed September 14, 2013)

I strongly advise against getting a "henna" tattoo anywhere on Gatlinburg's Parkway, especially from the shop called "Simply The Best." The artists are not actually using the red henna plant to do the temporary tattoos. They are using a substance which is erroneously referred to as "black henna," but which generally contains little or no henna whatsoever, and is mostly comprised of black hair dye and other harsh chemicals.

Now, I have several real tattoos, but have never had a henna one, so I was very dumb about this. I got one for fun (on Thursday) and realized something was the matter because the ensuing design was black, instead of reddish-brown as actual henna stains are supposed to be. I did research online and then confronted the shyster working for "Simply The Best." He could not give me a list of ingredients (that right there should have clued me in to the fact that these people are irresponsible scam artists) but he was able to tell me that the dye he uses DOES contain hair dye, which means that it definitely has the harmful chemical in it.

Now, it takes 10-12 days for the chemical burns to occur if they are going to occur (it doesn't always happen) but itching often happens first, and my "henna" stain itches. I have very sensitive skin and almost certainly will have a reaction. DO NOT get a "henna" tattoo from ANY PLACE on the Parkway that is using black paste. Real henna paste is brown, green, or brownish-green.

Any place that says the resultant stain will be black is basically going to apply toxic poison to your skin. You are giving these con artists money to hurt you.

⁶⁹⁷ Magic Monkey Mehendi. July 20, 2011. "Blegh, another black death siting..." posted to HennaTribe.org Forum
Index -> Open Henna Circle.

<http://hennatribe.org/viewtopic.php?t=12054&sid=2bdc9a765ba59b72ab6db905c73c0fdd> (accessed September 14, 2013)

I'm not really surprised but just yuck. A few weeks ago a sad looking girl came to my booth asking if I could touch up her henna. First, it was done with a stencil. And second, it was black. I said no, I won't touch it up because it is black and I refuse to even look at it. Then I educated her on black henna and asked where she got it. Gatlinburg.

Of course it's from Gatlinburg. Every other store up there has smoking paraphernalia, air brushed t-shirts, and henna. My husband thinks it's funny to inform me of every single store up there that has "henna tattoos". I think it's kinda sad now that I know at least one of them is slinging the black death..

⁶⁹⁸ Diana Davis. Teen fears permanent scarring after Henna tattoo. *WSB TV Local News*. May 15, 2012. Atlanta. Henry County, Georgia. <http://www.wsbtv.com/news/news/local/teen-fears-permanent-scarring-after-henna-tattoo/nN6y3/> (accessed September 11, 2013)

A 14-year-old Henry County girl fears she may have permanent scars on her arm after allowing someone to use hair dye on her skin to make a temporary tattoo.

Emi Salquero thought getting a temporary tattoo on her left forearm seemed like a good idea when she was in a Gatlinburg, Tenn. T-shirt store with her father last month.

The tattoo, intended to be a Black Henna, was painted on the surface of her skin with no needles.

Now, six weeks later, her skin remains red, blistered and irritated. Her doctor said there may be permanent scars.

"I'm mad that I didn't know about it and I'm mad it's going to scar me," Emi told Channel 2's Diana Davis.

Her mother said at first the doctors didn't believe the marks and blisters could be from the tattoo.

"They thought she had been burned on purpose like to scar her skin," Lydie Salquero said.

The tattoo turned out to be from Black Henna.

Unlike traditional brown and green Hennas that have been used since ancient times, Black Henna is made from coal tar and used to dye hair.

Dr. Rutledge Forney, an Atlanta dermatologist, told Davis she's seen other similar severe allergic reactions.

"It's applied to the hair without any problem for most people, but if you put it on the skin and leave it on the skin in clearly, more people are having reactions to it," Forney said.

Its ingredient, PPD, Phenylendiaime, in Black Henna, that can cause severe allergic reactions.

Black Henna tattoos are so popular near Florida beaches that the state has issued safety warnings. Most states, including Georgia, have not.

The Food and Drug Administration said PPD is approved only for use in hair dye, not for direct application to the skin.

The Salqueros are now urging teens to make thoughtful choices that could impact in their lives.

⁶⁹⁹ HENNA TATTOOS GATLINBURG TN. *Great Smoky Mountains Parkway (In Depth Review)*

<http://www.thegreatsmokeymountainsparkway.com/shoppi/henna-tattoos-gatlinburg-tn.htm> (accessed September 14, 2013)

⁷⁰⁰ Joel Allen. Teen has bad reaction to henna tattoo. July 9, 2010. *CarolinaLive.com* News Channel 15. WPDE WWMB. Barrington Broadcasting Group, LLC

http://www.carolinalive.com/news/photos.aspx?id=480740#UjScKX_pj0k (accessed September 14, 2013)

What was intended to be a harmless souvenir from Myrtle Beach, turned into a nightmare for a family visiting from Georgia.

A boy will likely be left permanently scarred from a temporary tattoo he says he got at a shop on Ocean Boulevard.

They're popular with tourists, but what are known as black henna tattoos can be dangerous. And if you're thinking of getting one of them, it's buyer beware, because they are totally unregulated.

Mason Adams, 13, of Ringgold, Georgia was visiting Myrtle Beach with his family last month, when he says he went to a shop on Ocean Boulevard to get a black henna tattoo.

By the next day, Mason was suffering from an intense reaction to the henna ink. "Later that night it started turning a lighter color and then the next morning, on Saturday, when he woke up there was actually small blisters there and no ink left," said Mason's mother, Dusty Murphy.

Pure henna is a natural plant-based mixture. But often what are known as black henna tattoos are made with a chemical called PPD, which is only approved for use in hair dyes and not intended for direct application to the skin. "When it's placed on the hair, it's supposed to be left 30 minutes, max. So here I left black hair henna dye on my son's skin for 6 hours," Murphy said.

PPD can cause painful, burning reactions in some people.

But the tattoos are unregulated, so all state health officials can do is give a warning to consumers. "They should just be very careful, be very cautious, and maybe go in and ask some questions before making the decision with the procedure," said Adam Myrick, SC Dept. of Health and Environmental Control.

Mason's doctor says the boy will now have a lifelong susceptibility to products with PPD, including some medications with black printing on them. Mason got a tattoo of his last name and the logo for Fox Motorsports.

As painful as the scar was, he says, it could be worse. "I'm glad that I got this now so it wouldn't be like Spongebob or something silly, and that's what all my doctors told me," Mason said.

Mason's mother says she was assured by the operator of the tattoo shop that PPD was not an ingredient in her son's tattoo.

We tried to talk to the shop's owner Thursday, but she declined to comment.

State health officials put out a health advisory about the tattoos in 2005, after two boys in North Myrtle Beach were hospitalized from severe reactions.

⁷⁰¹ "Black Henna Tattoos with PPD Pose Serious Health Risks." Lawyers and Settlements.com. July 31, 2008

http://www.lawyersandsettlements.com/lawsuit/black-henna-tattoos-with-ppd-pose-serious-health.html#UjTC4X_pi0k (accessed September 14, 2013)

Dermatologists Issue Warning To Consumers

Dermatologists are warning consumers that the harmless-looking, henna tattoos that are being sold everywhere from summer carnivals and open-air malls to cruise ships and vacation hot spots could contain a harmful chemical known as para-phenylenediamine, or PPD, used to create longer-lasting black henna tattoos. Notably, PPD has been associated with a rash of major skin problems.

To date, there have been hundreds of case reports of allergic contact dermatitis from black henna tattoos, with reactions ranging from mild eczema to blistering and even permanent scarring.

The U.S. Food and Drug Administration (FDA) prohibits the direct application of PPD to the skin because of its known health risks. However, since the tattoo industry is not regulated, people are still getting black henna tattoos and exposing themselves to serious medical problems, such as the development of a lifelong sensitivity to PPD and an allergy that can cause a cross reaction to other compounds, including certain medications. For example, use of some heart, hypertension and diabetes medications, and even some anesthetics used in topical hemorrhoid preparations or oral gels, can lead to allergic reactions in people previously sensitized to PPD. This could result in serious adverse health effects.

Legal Help

If you or a loved one has suffered ill health effects or injury as a result of having a PPD-containing henna tattoo, please click the link below to send your complaint to a lawyer to evaluate your claim at no cost or obligation.

Black Henna Tattoos with PPD Pose Serious Health Risks

Please complete this claim form to request a free case evaluation from a lawyer listed on LawyersandSettlements.com.

- * Defendant: (who are you accusing?)
 - * Describe your complaint: (briefly describe the damages you have suffered)
 - * First and last name:
 - * Email address:
 - * Confirm email address:
 - * Phone number(s):
 - * State/Prov, Zip Code:
- Best time & way to contact you:
This form is secureFields marked * are required.

There is absolutely no cost to you to submit this form. Doing so places you under no obligations and does not establish an attorney-client relationship.

⁷⁰² Amanda Taylor. November 24, 2010 "Consumer Watch: Oklahoma Teen's Temporary Tattoo May Not Be Temporary." *Oklahoma's Own News on 6* <http://www.newson6.com/Global/story.asp?S=13565471> (accessed September 14, 2013)

OKLAHOM CITY -- For Mason Dickerson, a high school senior, getting the name "Kylie" on his back didn't seem like a big deal. After all, this tattoo was supposed to be temporary.

"We've been dating for three weeks so I was like 'You know what, I'll get a cross with your name'" Dickerson said.

Never did he think within a week, his back would have a huge red rash. So his mother took him straight to the doctor.

"He said basically it's a chemical burn," said Julia Blood. "It may fade over time. It may not."

Dickerson got the body art at the 2010 Oklahoma State Fair. He said Orhan Erkin had a booth and was doing what's known as Black Henna.

For centuries, Henna, which is derived from a plant and considered safe, has been used to decorate the skin before celebrations. It temporarily dyes the skin a reddish-brown color.

But Black Henna isn't really Henna at all. It's typically black hair dye which contains a chemical called p-phenylenediamine, or PPD.

The FDA has said using PPD directly on the skin is illegal. Everyone who uses it doesn't develop a rash, but it happens enough for a national dermatological association to call PPD one of the worst allergens.

"If I had known this was actually going to scar or something, I would have never gotten it. No way!" Dickerson said.

By the time the family contacted Consumer Watch, the Oklahoma State Fair was over. And while there were several booths applying body art at the Tulsa State Fair, none of the vendors were using Black Henna, and for good reason.

"I swear I've seen people have it branded on them for life," one body art vendor told Consumer Watch.

He switched from using Black Henna to a natural fruit extract.

"I would never put it on my skin," he said, "So why would you put it on yours?"

So, why do some vendors still use it? It boils down to profit.

"You can go to Sally's Beauty Supply and buy that stuff," the artist said. "It's hair dye and it's \$4-\$5 a case and you're making thousands of dollars off of it."

The Oklahoma State Department of Health is now stepping in to stop its use.

"It's not approved to be in contact with the skin for prolonged period," said Travis Brown with the State Health Department Consumer Protection Division. "So if we're made aware of that and received complaints then we could go out into that vendor and discuss the issue with them, try to verify that it was actually black hair dye being used."

Brown said they've only had one complaint this year, which was Dickerson's. But since then, they've become more educated about the dangers.

"It's something I will probably make calls to the State Fair Board...to make them aware before next year," Brown said.

Starting next year, before leasing a booth, Henna artists will be required to provide an affidavit to the State Fair Board stating their ink does not contain PPD.

Consumer Watch reached Orhan Erkin on the phone. And he said he doesn't quite know what's in the temporary dye he buys.

"Who knows which one is real Henna, fake Henna, who knows?" Erkin said.

But he said he's been using it for 10 years, and this is the first time someone's had a reaction.

And that reaction seems to be fading. After taking medication, Dickerson's shoulder looked better. Still, his mom just wants to make sure no one else has to wonder if they'll have a permanent reminder of their temporary tattoo.

"I want to know how to get the process to get this started to get this banned in Oklahoma," Blood said. "I think it's detrimental and shouldn't be allowed in our state."

While the FDA said black Henna shouldn't be used on the skin – they simply regulate the product, not the application of it.

State Representative Harold Wright said he is working on drawing up legislation to possibly ban PPD use in temporary tattoos.

⁷⁰³ Ibid

⁷⁰⁴ Ibid

⁷⁰⁵ Amanda Taylor. "Consumer Watch: Temporary Tattoo Artist Returns to Oklahoma State Fair." NEWS:

Consumer Watch. *News9*. Posted: Sep 19, 2011 5:09 PM EST.

<http://www.datelinecarolina.org/story/15498817/temporary-tattoo-artist-returns-to-state-fair> (accessed September 11, 2013)

OKLAHOMA CITY -- An Oklahoma teenager says he got a nasty rash from something he got at the state fair. That launched a Consumer Watch investigation involving the State Health Department and even a state legislator.

One year later, our Consumer Watch Team returned to the fair and found the same artist is drawing on people's skin again.

It all started at the State Fair in 2010 when Mason Dickerson got a cross and his girlfriend's name inked on his back.

"I just thought it was cool," Dickerson said.

But a few weeks later, when the ink started to fade, it left behind a red rash. His mom took him to the doctor.

"He said basically it's a chemical burn," Julia Blood said. "It may fade over time. It may not."

It's believed the artist, Orhan Erkin, used what's known as Black Henna. Instead of natural Henna, which comes from a plant and is considered safe, Black Henna is typically hair dye containing a chemical known as PPD, a chemical the FDA says is illegal to use directly on the skin.

11/24/2010 Related Story: Consumer Watch: Oklahoma Teen's Temporary Tattoo May Not Be Temporary

The Consumer Watch Team returned to the fair this year and found Orhan Erkin and his booth, a popular one at that, especially with teenagers. No signs of Black Henna, but to be sure, our producer asked him.

Producer: "What kind of ink are you using?"

Erkin: "It's Henna."

Producer: "Is it natural Henna?"

Erkin: "Natural Henna."

He couldn't provide us anything in writing stating what was in his ink. But state fair officials tell us they've taken steps to make sure customers are safe.

"We've had multiple discussions with the gentleman from the Henna tattoos and we have a contract with him that states he won't use any products that contain PPD or any illegal substances," State Fair Spokesperson, Scott Munz said.

While the FDA regulates what's in Black Henna, they don't regulate the application of it. So if you want a temporary tattoo, make sure to ask what's in it. If they can't tell you, walk away.

As for Mason, his tattoo is only slightly visible.

⁷⁰⁶ Beatrice Fantoni. "Tattooists draw blank with borough; Henna artists can't work streets of Old Montreal." *The Gazette* (Montreal). August 4, 2010. Date Accessed: 2013/06/02. www.lexisnexis.com/hottopics/lnacademic.

If you're looking to get a henna tattoo on the streets of Old Montreal this summer, you probably won't be able to find an artist to draw one.

"It's the (Ville Marie) borough that doesn't want this activity any more," said Suzanne Morin, a certified henna tattoo artist who worked in Old Montreal for 10 years.

For the second summer in a row, about 15 henna tattoo artists have been unable to obtain vendors' permits to work in Place Jacques Cartier alongside the artisans and buskers.

"This kind of activity doesn't have a place in Old Montreal," Michel Demers, head of the cultural division and public libraries for the Ville Marie borough, said yesterday.

Henna tattooing "is not an activity that corresponds to a tradition here in Quebec," Demers said.

Henna tattoos are not permanent. The design is painted on the skin using a paste made from the henna plant, and wears off in a few weeks.

After consultations in 2008 among the borough, residents and artists, Ville Marie officials decided to stop issuing permits to henna tattoo artists. There's no similar restriction on tattooists who work indoors.

Artisans and performers are the only people who have permits to sell on public property, Demers said.

To obtain a permit, a person must either pass an audition, or prove he or she is a professional by being part of a recognized artists' guild.

"It's not a recognized discipline anywhere," Demers said of henna tattooing. Even if henna tattooing were recognized, he added, the city isn't required to issue a vendor's permit for every art form.

Morin and other henna tattoo artists say this is discrimination on the part of the borough and the Ville Marie Commercial Development Corp., which manages space for the artists in Place Jacques Cartier and schedules the busking acts.

Mario Lafrance, executive director of the corporation, says every artist must obtain a permit from the city. "We didn't do this to eliminate anyone. That wasn't our objective."

The corporation must follow the rules set out by the borough, he said. At the same time, the artist has to fit in with the kind of programming the corporation wants to offer.

Lafrance said he agrees that henna tattoos don't fit in Old Montreal.

Morin says most restaurants and businesses in the area had no problems with the henna tattoo artists.

"We were the people who caused the least disturbance," Morin said, noting their stalls were not set up near restaurants or stores.

Demers said there were "disciplinary problems" involving henna tattoo vendors and there were complaints about arguments.

Lucian, a henna tattoo artist who spoke on condition his last name not be used, said it's impossible to get a permit to work elsewhere as an outdoor henna tattooist in Montreal. A handful of his colleagues have left the city to find work, he noted.

"It's an art," he said. "It's work, too."

⁷⁰⁷ Dian Muntz, pediatrician; Editorial. "Henna ban is good news." *The Gazette* (Montreal). August 7, 2010 Saturday. Date Accessed: 2013/06/02. www.lexisnexis.com/hottopics/lnacademic.

⁷⁰⁸ Girl Friday. Birthday Henna Tattoos. Confessions of a Minneapolis Concierge. November 1, 2009.

http://girlfriday.typepad.com/my_weblog/2009/11/birthday-henna-tattoos.html (accessed September 14, 2013)

Then Erik remembered that a girlfriend of his got henna done at the Somali mall. Google led us to 24th and Elliot, to a concrete structure more or less void of windows and certainly no henna shops. It turns out we were at the wrong Somali mall. (Yes, there are multiple Somali malls in South Minneapolis.)

Some nice ladies directed us to the Suuqa Karmel Somali mall at Lake and Pillsbury, where the henna tattooing can be found in suite #110. You'll recognize it by the complete lack of any indicators that henna tattooing is done there. You will, however, see a lot of long black dresses adorned with sequins.

So four of us walk in, two girls, two guys, without really giving it a second thought. My cousin Tony actually stops just short of the back room where the tattooing is done, since he wasn't really thrilled about the idea. But Cristina, Erik and I just stroll on in, to where at least four Somali ladies have their sleeves up around their elbows and their skirts pushed up to their knees. Erik was, of course, quickly ushered out --

"women only!" -- and joined my cousin in the front room to pout. No henna tattoos for boys. Modesty aside, no wonder they were pretty wide-eyed when a guy walked into their henna salon. According to Wikipedia: "Traditionally, only women apply this body art and it is absolutely strange for men to apply such art on their hands and feet."

Our henna tattooist, Sabrina (whom we later renamed Sabrina Fierce), was a master of multi-tasking. Not only did she complete both Cristina's and my tattoos in like 5 minutes, she did while texting.

⁷⁰⁹ Girl Friday. "Birthday Henna Tattoos." *Confessions of a Minneapolis Concierge*. November 1, 2009.

http://girlfriday.typepad.com/my_weblog/2009/11/birthday-henna-tattoos.html (accessed September 14, 2013)

I'm reluctant to go back to the place and make a stink about it - Nicholas attributes this to "white guilt," because, he's inappropriate like that. I'm certainly not going to sue, if only because I highly doubt that this little place has very deep pockets, though I'm not happy about now being stuck with an ER bill. I do think I'm probably obligated to at least let them know what happened, as there's a good chance they don't even know that what they're using is unsafe. I may also take my roommate's suggestion and report it to the FDA. I've spent the last three days being very ill from this and may have permanent scarring as well as a lifetime of effects from it, so doing nothing doesn't feel like an option. I suppose I'll take this as a life lesson to be much more careful in the future about who I get my beauty services/products from.

⁷¹⁰ Jane Friedmann. "Black henna' tattoos can be nightmare." *Star Tribune*. January 26, 2013.

<http://m.startribune.com/news/?id=188500901> (accessed September 14, 2013)

A chemical added to some henna pastes may cause blisters, scarring, permanent skin discoloration and an allergy to hair dye.

Shereé Peterson and a party of female relatives were delighted with the swirly, black designs a henna artist had piped onto their hands and forearms at a Minneapolis mall.

Peterson, of Minnetonka, her 5-year-old daughter Sophia and four others had piled into one car just before the New Year and set off to get temporary henna tattoos from the artist, who had been recommended by a Ridgedale store clerk. The group was directed to a booth in Karmel Square filled with colorful scarves and other merchandise. A woman at the back of the booth charged \$5 per tattoo.

A week and a half later, as Sophia's tattoo began to fade, an identical design of raised itchy blisters took its place. Peterson soon discovered that an ingredient found in some henna pastes is a strong allergen that is illegal to apply to skin but goes largely unregulated.

"In my mind, I was just thinking, oh, this is henna, which I had known to come from a plant. I didn't think twice about a potential reaction," Peterson said.

The culprit in Sophia's case is a chemical called para phenylenediamine (PPD), a pediatrician told Peterson.

It may also have been the culprit at a eighth-grade graduation party in 2011, when about half of a group of 35 Twin Cities students developed blisters and weeping lesions about a week after an artist used a dark-colored paste to draw henna tattoos on their skin. According to a news release by the Minnesota Department of Health, the children were treated with steroid cream and three were given oral antibiotics. The department, which didn't identify the children, urged customers to check for PPD in henna pastes before getting a tattoo.

Many henna artists mix their own henna paste solutions and some add PPD to darken the staining and lengthen the life of the tattoo. PPD may also be present in pre-mixed henna sold by retailers and may not be properly labeled.

Harbinger of luck

There's a cultural reason behind the tinting of henna, said Dr. Sanober Amin, a resident in the Department of Dermatology at the University of Minnesota. "A darker henna outcome is associated with better luck, especially when it's applied on the hands of a bride," Amin said, referring to the practices of many Southeast Asian and African cultures.

"On the wedding day everybody will come and look at the color intensity of your hands, the henna on your hands, and bless you with good luck or not," said Amin, who got the henna tattoos herself when she was wed in Pakistan.

"We see a lot of patients with allergies to PPD. It's a very common contact allergy," according to Dr. Bethany Cook, a colleague of Amin. Most patients are treated for a reaction to the PPD legally found in about two-thirds of hair dyes, but since the 1990s dermatologists have been seeing more and more cases attributed to henna tattoos, Amin said.

When PPD is laced into henna pastes it is usually at a much higher concentration than that found in hair dye, Cook said.

PPD was even voted the "Contact Allergen of the Year" by the American Contact Dermatology Society in 2006.

Skin exposure to PPD-laced henna can have long-term consequences. A common complication is a lifelong sensitivity to hair dye containing PPD, Amin said. Some patients develop scars and skin discoloration that essentially turn what was supposed to be a temporary tattoo into a permanent one.

Medical literature suggests a small number of exposed patients develop a cross-sensitivity to anesthetics and certain textile and food dyes. In very rare instances, people have died after exposure to PPD.

'Natural henna' artists unite

Though the FDA has not approved henna in its pure form for application on skin, the plant appears to be safe and is widely available on the Internet. "So far we have not seen an allergy to henna itself," Amin said.

Many local henna artists agree and have banded together to promote the safe use of henna. Amy Leinen lives in North St. Paul and started a "temporary body art" business called Mehndi Moments a few years ago.

"I'm networked with a whole bunch of other henna artists who are only using natural henna," Leinen said. "We educate about the dangers of PPD and we're networked throughout the world." There is even a "Minnesconsin" Facebook group dedicated to the use of natural henna, she said.

Leinen, who applies "henna crowns" containing "healing symbols" on the heads of cancer patients, symbolic imagery on pregnant women's bellies and provides tattoos at birthday parties and festivals, said she gets her raw henna from a reliable source and mixes it with lemon juice and essential oils.

PPD-free henna is usually brownish when mixed and bright orange when the paste is removed from the skin, darkening gradually before it fades, Leinen said. Black paste indicates the presence of PPD.

The U.S. Food and Drug Administration regulates most color additives, including PPD. "All color additives used in cosmetics [or any other FDA-regulated product] must be approved by the FDA," according to an information sheet.

The Peterson family filed a complaint with the FDA about the incident. When Whistleblower visited Karmel Square last week, the tattoo artist could not be found.

The FDA failed to respond to requests for an interview, and it is unclear how its regulations are enforced.

The practice does not fall under the jurisdiction of the Minnesota Board of Cosmetologist Examiners because henna artists are not required to be licensed, according to Executive Director Gina Stauss.

The Minnesota Department of Health "does not have a regulatory role monitoring henna art or any adverse reactions to henna," according to Scott Smith, spokesman for the Minnesota Department of Health. "Henna tattoos do not fall under the umbrella of the Minnesota Body Art Statute."

Peterson is crossing her fingers that her daughter will emerge without scarring or a permanent ghost design. "Her doctor told us that most likely by the time summer hits, she'll have some traces of it and it's really important to use sunscreen so that there isn't any discoloration of the skin," Peterson said.

⁷¹¹ Minnesota Department of Health. "Body Art Licensing." *Minnesota Department of Health*.

<http://www.health.state.mn.us/divs/hpsc/hop/tattoo/brochure.html> (accessed September 14, 2013)

Announcements.

The Minnesota Department of Health (MDH) is responsible for implementing the Body Art Regulations, which provide statewide licensing of tattoo and piercing professionals and establishments. The law became effective on July 1, 2010.

Pursuant to Minnesota Statute 146B.03, Subdivision 11, effective August 1, 2013, any individual who performs body art without a valid license is guilty of a gross misdemeanor.

⁷¹² Temporary Tattoos May Cause Permanent Skin Damage *WCCO 4*. CBS Minnesota. June 25, 2011.

<http://minnesota.cbslocal.com/2011/06/25/temporary-tattoos-may-cause-permanent-skin-damage/> (accessed September 11, 2013)

MINNEAPOLIS (WCCO) – The Minnesota Health Department is looking into a possible health risk associated with henna tattoos after about a dozen kids dealt with skin infections, staph, and possible scarring following getting tattooed at a party.

Eva Streitz is one of those kids.

She thought a henna tattoo would be a great way to mark the end of her eighth grade year.

Nearly all of her 56 classmates had the same idea when a henna artist was brought in for their graduation party.

"When she showed it to me, I thought it was awfully dark," said Michelle Streitz, Eva's mom.

Eva didn't think twice about the stinging she felt when the ink was put on her hand.

"I thought it was normal, because it was happening to everyone," Eva Streitz said.

In the days that followed, however, she and her mother realized something wasn't right.

"It got on my face, and it spread." Streitz said.

At about the time her daughter's infection flared up, Michelle Streitz started hearing about other people's kids having reactions to the tattoos.

The reactions ranged from inflammation to scabbing and blisters. Some students even had to be treated for staph infection.

An internet search of symptoms had Michelle Streitz wondering if the artist used black henna, which often contains a chemical (PPD) that can irritate skin.

"A lot of people mistakenly think that just because it's natural it's going to be safe, and that's not necessarily true," said Kirk Hughes, of the poison control center at the Hennepin County Medical Center.

"It makes me nervous, now, because we don't know what's in hennas," Michelle Streitz said.

Most of the students have healed, but some are dealing with the possibility that something temporary may now be permanent.

"That would be terrible. When I go out, I like to cover it up, because it looks bad," Eva Streitz said.

The henna artist told one of the mothers she did not use black henna. The artist was not available for comment.

⁷¹³ Melissa Burlaga. Public Warned Against Use Of Additives In Henna For Temporary Tattoos. *Northland News Center*. June 30, 2011 <http://www.northlandsnewscenter.com/news/local/Public-Warned-Against-Use-Of-Additives-In-Henna-For-Temporary-Tattoos-124789374.html> (accessed September 11, 2013)

Duluth, MN (Northland's NewsCenter) The public is being warned against the use of additives in henna used to create "temporary tattoos."

Materials added to henna can cause reactions, scarring of skin, other health problems.

The Minnesota Department of Health (MDH) is warning against use of henna products that contain additives to create "temporary tattoos."

Materials that are sometimes added to henna can cause allergic reactions in some people when applied to the skin, and cause people to develop lasting chemical sensitivities, according to MDH officials.

One of the most commonly used additives – and one that is of particular concern – is para-phenylenediamine (PPD).

PPD is used as a darkening agent to create "black henna." PPD is approved by the U.S. Food and Drug Administration (FDA) for use in hair dye, but not in cosmetics that are applied directly to the skin.

It is known to cause allergic skin reactions in some people, resulting in intense itching, redness of the skin, blistering, infections, and – in some cases – permanent scarring.

In some individuals, the scarring can be accompanied by light or dark patches on the skin.

In addition, an allergic reaction to PPD in a henna product used on the skin can set the stage for allergic responses to similar chemicals later on, including ingredients in hair dye, sunscreen and medications.

Pure henna is a red or brown dye derived from the dried leaves of the henna shrub, and commonly used as a hair coloring agent.

Although not approved by FDA for direct application to the skin, henna is commonly used for temporary tattoos. Allergic reactions from use of pure henna on the skin have rarely been reported.

However, MDH advises against getting henna tattoos for infants or young children – even if pure henna is used – and the agency is also cautioning people about getting tattoos with henna preparations that may contain other ingredients.

MDH has been investigating reports of allergic skin reactions in a group of 35 Twin Cities eighth-graders who had been given temporary tattoos using a dark-colored material.

About half of the children had skin reactions, which included blistering and weeping lesions. In most cases, the lesions appeared within 20 days of getting the tattoo, and half occurred within 7 days.

The children were treated with creams, including steroid containing creams, and three children were given oral antibiotics.

Although the material used for the tattoos was described as black in color, MDH has not determined as yet whether it contained PPD or other additives.

However, MDH officials say this episode underscores the need for caution before getting a henna tattoo.

Consumers purchasing henna to create their own tattoos should check product labels to see if these products contain PPD or other additives before applying them to the skin.

They should be especially leery of any products that appear to be black in color. By law, ingredients must be listed on the label of all retail cosmetics.

Henna tattoos are frequently offered by vendors at salons, or at venues like public celebrations, fairs or festivals.

People who consider getting a henna tattoo – for themselves or their children – should make sure the vendors are not using products that contain PPD or other additives. Vendors are urged to check with suppliers, and verify that they are only using additive-free henna.

PPD-containing henna products can cause a reaction in as little as 24-48 hours if an individual has previously been exposed to PPD.

Reactions to “black henna” more commonly occur 4-10 days after the product is applied, but can occur up to three weeks later.

People who believe they are having a reaction to PPD should contact their health care provider.

PPD reactions can also be reported to the Minneapolis office of FDA at 612-758-7221.

⁷¹⁴ Edmonds, R., Guskin, E., Rosenstiel, T. 2011. “The State of the News Media, An Annual Report on American Journalism. Newspapers: By the Numbers; Project for Excellence in Journalism 2011.” *Pew Research Center’s Project for Excellence in Journalism*. <http://stateofthemediamedia.org/2011/newspapers-essay/data-page-6/> (accessed September 16, 2013)

⁷¹⁵ FDA U.S. Food and Drug Administration. "Temporary Tattoos May Put You at Risk" *FDA U.S. Department of Health and Human Services*. March 25, 2013.

<http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm343932.htm> (accessed September 16, 2013)

Spring break is on the way, or maybe summer vacation. Time to pack your swim suit, hit the beach, and perhaps indulge in a little harmless fun. What about getting a temporary tattoo to mark the occasion? Who could it hurt to get a temporary tattoo?

It could hurt you, if you actually get one. Temporary tattoos typically last from three days to several weeks, depending on the product used for coloring and the condition of the skin. Unlike permanent tattoos, which are injected into the skin, temporary tattoos marketed as "henna" are applied to the skin's surface.

However, "just because a tattoo is temporary it doesn't mean that it is risk free," says Linda Katz, M.D., M.P.H., director of FDA's Office of Cosmetics and Colors. Some consumers report reactions that may be severe and long outlast the temporary tattoos themselves.

MedWatch, FDA's safety information and adverse event (bad side effects) reporting program, has received reports of serious and long-lasting reactions that consumers had not bargained for after getting temporary tattoos. Reported problems include redness, blisters, raised red weeping lesions, loss of pigmentation, increased sensitivity to sunlight, and even permanent scarring.

Some reactions have led people to seek medical care, including visits to hospital emergency rooms. Reactions may occur immediately after a person gets a temporary tattoo, or even up to two or three weeks later.

You may be familiar with henna, a reddish-brown coloring made from a flowering plant that grows in tropical and subtropical regions of Africa and Asia. Since the Bronze Age, people have used dried henna, ground into a paste, to dye skin, hair, fingernails, leather, silk and wool. This decoration—sometimes also known as mehndi—is still used today around the world to decorate the skin in cultural festivals and celebrations.

However, today so-called "black henna" is often used in place of traditional henna. Inks marketed as black henna may be a mix of henna with other ingredients, or may really be hair dye alone. The reason for adding other ingredients is to create a tattoo that is darker and longer lasting, but use of black henna is potentially harmful.

That's because the extra ingredient used to blacken henna is often a coal-tar hair dye containing p-phenylenediamine (PPD), an ingredient that can cause dangerous skin reactions in some people. Sometimes, the artist may use a PPD-containing hair dye alone. Either way, there's no telling who will be affected. By law, PPD is not permitted in cosmetics intended to be applied to the skin.

You may see "black henna" used in places such as temporary tattoo kiosks at beaches, boardwalks, and other holiday destinations, as well as in some ethnic or specialty shops. While states have jurisdiction over professional practices such as tattooing and cosmetology, that oversight differs from state to state. Some states have laws and regulations for temporary tattooing, while others don't. So, depending on where you are, it's possible no one is checking to make sure the artist is following safe practices or even knows what may be harmful to consumers.

A number of consumers have learned the risks the hard way, reporting significant bad reactions shortly after the application of black henna temporary tattoos.

The parents of a 5-year-old girl reported that she developed severe reddening on her forearm about two weeks after receiving a black henna temporary tattoo. "What we thought would be a little harmless fun ended up becoming more like a nightmare for us," the father says. "My hope is that by telling people about our experience, I can help prevent this from happening to some other unsuspecting kids and parents."

The mother of a 17-year-old girl agrees. "At first I was a little upset she got the tattoo without telling me," she says. "But when it became red and itchy and later began to blister and the blisters filled with fluid, I was beside myself." She explains that as a nurse, she's used to seeing all manner of injuries, "but when it's your own child, it's pretty scary," she says.

And another mother, whose teenager had no reaction to red henna tattoos, describes the skin on her daughter's back as looking "the way a burn victim looks, all blistered and raw" after a black henna tattoo was applied there. She says that according to her daughter's doctor, the teenager will have scarring for life.

If you have a reaction to or concern about a temporary tattoo or any other cosmetic, in addition to recommending that you contact your health care professional, FDA asks you to contact MedWatch, the agency's problem-reporting program. You can also call 1-800-FDA-1088 to report by telephone, or contact the nearest FDA consumer complaint coordinator in your area.

⁷¹⁶ Nancy Shute. "Spring Break Alert: 'Black' Henna Tattoos May Not Be Safe." *Shots. Health News from NPR*.

NPR. March 25, 2013. <http://www.npr.org/blogs/health/2013/03/25/175286587/spring-break-alert-black-henna-tattoos-may-not-be-safe> (accessed September 18, 2013)

⁷¹⁷ Ciara LaVelle. Body Art: Temporary Henna Tattoos Can Leave Permanent Scars, FDA Warns. *Miami New Times Blog*. April 27, 2013 http://blogs.miaminewtimes.com/cultist/2013/03/temporary_henna_tattoos_can_le.php (accessed September 18, 2013)

⁷¹⁸ "FDA warns on risks related to temporary henna tattoos." *Healio.com*. March 27, 2013. <http://www.healio.com/dermatology/practice-management/news/online/%7Bd716f6dd-d9f1-481b-a479-be27f002f57a%7D/fda-warns-on-risks-related-to-temporary-henna-tattoos> (accessed September 18, 2013)

⁷¹⁹ "Warnings issued for black henna tattoos." *Examiner.com* March 25, 2013. <http://www.examiner.com/article/warnings-issued-for-black-henna-tattoos> (accessed September 18, 2013)

⁷²⁰ Annabel Tautou. "Black Henna Tattoos May Cause Severe Skin Allergies: FDA." *FrenchTribune.com*. March 26, 2013. <http://frenchtribune.com/teneur/1316999-black-henna-tattoos-may-cause-severe-skin-allergies-fda> (accessed September 18, 2013)

⁷²¹ "FDA warns against temporary 'black henna' tattoos." *GlobalPost.com*. March 25, 2013. <http://www.globalpost.com/dispatch/news/health/130325/fda-warns-against-temporary-tattoos> (accessed September 18, 2013)

⁷²² "Warning out vs temporary tattoo." *Tempo.com.ph*. April 3, 2013. http://www.tempo.com.ph/2013/04/warning-out-vs-temporary-tattoo/#.UjpIGX_pj0l (accessed September 18, 2013)

⁷²³ Dexter Rodrigo Matilla. "Public cautioned on henna tattoos." *Philstar.com The Filipino Global Community*.

April 3, 2013. <http://www.philstar.com/health-and-family/2013/04/03/926494/public-cautioned-henna-tattoos>

(accessed September 18, 2013)

So far, the Philippine FDA has not yet received any consumer complaint, but unlicensed temporary tattoo dye manufactures, importers, traders or distributors are strongly advised to apply for license to operate and market authorization from the FDA. Failure to do so is a direct violation of Republic Act No. 3720. (as amended), otherwise known as the Food, Drugs and Devices, and Cosmetic Act and Republic Act No. 9711, otherwise known as the FDA Act of 2009.

⁷²⁴ Esther Tanquintic-Misa. "Black Henna Tattoos Could Permanently Stain Your Skin." *International Business Times*. March 27, 2013. http://au.ibtimes.com/articles/450722/20130327/yes-getting-black-henna-tattoo-indeed-pretty.htm#.UjpKGn_pj0I

(accessed September 18, 2013)

⁷²⁵ Alyson Harris. Photos from Alyson Harris's post in PPD Free Henna Artists. *Facebook*. June 7, 2013.

https://www.facebook.com/photo.php?fbid=10100351029251757&set=gm.644464748915528&type=1&relevant_count=2&theater (accessed September 18, 2013)

⁷²⁶ Margot Kim. Black Henna tattoos can leave permanent damage. *ABC Channel 30. Health Watch*. May 2, 2013.

http://abclocal.go.com/kfsn/story?section=news/health/health_watch&id=9088431 (accessed September 21, 2013)

⁷²⁷ Alyson Harris. Photos from Alyson Harris's post in PPD Free Henna Artists. *Facebook*. June 7, 2013.

<https://www.facebook.com/photo.php?fbid=10100351029251757&set=gm.644464748915528&type=1&permPage=1> (accessed September 18, 2013)

⁷²⁸ Ibid

Britons are putting themselves at risk of scarring, blistering and lifelong allergies by having so-called temporary tattoos applied while on holiday abroad, experts said today.

The Cosmetic Toiletry and Perfumery Association is urging people to avoid salons or anyone else that offers "black henna" tattoos.

Research by the association reveals that one in 10 Britons has been tattooed, and that in 57 per cent of cases it was done abroad. However, the industry body, whose members include manufacturers and suppliers of ingredients used in cosmetics, said the dye used in black henna tattoos is unsafe if painted directly on to the skin.

Dr Emma Meredith, head of scientific and technical services, said true black henna does not exist. The vegetable dye is naturally red or brownish and the tattoos are likely to contain PPD, an ingredient in hair colorants.

The dye poses no risks if used safely and legally by beauty experts, said Dr Meredith, but PPD can leave people with a swollen and sore red "burn" if painted directly on to the skin.

“It’s important people understand the dangers,” she added. “The use of PPD in black henna temporary tattoos painted directly on to the skin can be dangerous and is illegal, which means millions of us at home and abroad could be putting ourselves at risk of painful blistering and permanent scarring this summer.”

The warning follows an earlier alert this year from America’s health watchdog, the US Food and Drug Administration, which received numerous complaints to its hotline.

Longer term, people can develop a permanent sensitivity to PPD. This means anyone can have a reaction to products that legally contain the chemical, including permanent hair dyes.

Hermione Lawson, from the British Skin Foundation, said: “Many people don’t know that allergies build up over time, which means you can become susceptible to a reaction in the future if you’ve used other legal, safe products that contain PPD.”

⁷²⁹ Pervera, Danilo Steven. HENNA TATTOO Uploaded to YouTube March 13, 2008

Comments (Danilo Steven Pervera) <http://www.youtube.com/watch?v=qzZACEbXr64&feature=related> (accessed September 21, 2013)

baardagaampje

how is it that your henna is black? is this whats called black henna or does it come because you put alcohol in it? pls tell me cuz my henna comes out greenish and leaves an orange mark on the skin. also i cant read ingredient[C] in the beginning :D pls tell meh

Danilo Steven Pervera

it's black because i'm using BIGEN henna powder (hair dye)... it is a bit risky because it has an adverse effect if you are hypersensitive with some of its components...

icewench

this is NOT henna, it is a chemical that can seriously harm you!! Natural henna is NEVER black. You must research black henna if you think this is cool.

baardagaampje

thx for responding to me personally :) anyways i heard about that stuff i heard its wrong and stuff but i dont really care and ill stop commenting now xD

⁷³⁰ Sertori, Trisha. “Temporary tattoos pose greater risk.” *The Jakarta Post*. January 19, 2012. <http://www.thejakartapost.com/news/2012/01/19/temporary-tattoos-pose-greater-risk.html> (accessed September 23, 2013)

Along Kuta’s back alleys, tiny temporary tattoo kiosks vie with beachwear and tatty souvenir shops.

One 30-year-old Black Henna artist from Karengasem said he has been using the product since “before the first Bali bomb. I feel it’s safer than needles and if you are bored with the design you can change it.”

He added that he purchases his Black Henna “from a friend. I’ve been doing this a long time. A lot of Australians get these and they have never had any trouble,” said the artist.

⁷³¹ Sharot, Tali., T., Korn, C., Dolan, R. 2011. "How unrealistic optimism is maintained in the face of reality." *Nature Neuroscience* . 14, 1475–1479
<http://www.nature.com/neuro/journal/v14/n11/full/nn.2949.html> (accessed October 15, 2012)

⁷³² Gallagher, J. 2011 "Brain 'rejects negative thoughts'" *BBC News*. <http://www.bbc.co.uk/news/health-15214080>.
(accessed October 14, 2012)

⁷³³ Tarawa.com. "Welcome in Tarawa World. Black Tattoos Kits." Tarawa.com. 1999.
<http://web.archive.org/web/19990224202119/http://www.tarawa.com> accessed June 14, 2012.

YOU SAW THEM ON BEACH IN BALI, IN EGYPT, SEHELLES, AUSTRALIA, ECT...
TARAWA OFFERS to YOU the SAME PRODUCT OF BLACK TEMPORARY TATTOOING
WITHOUT ANY HARMFUL PRODUCT FOR the SKIN .
TARAWA WAS DEVELOPED A NEW PRODUCT REVOLUTIONNAIRE AS REGARDS BLACK
TEMPORARY TATTOOING. THIS PRODUCT PRESENT IN THE FORM OF POWDER AND YOU
MIXT SIMPLY WITH WATER MINERALE. ONCE TATTOOING DONE, THE CUSTOMER
SHOULD NOT TOUCH THERE DURING 60 A 90 MINUTES.

After The 90 Minutes rinse WHITH WATER.le Black Tattooing Will hold On The Skin Of 7
DAYS(garanti) A 15 Days Following The Types Of Skin.THIS PRODUCED DOES NOT CONTAIN
ANY HARMFUL PRODUCT FOR THE SKIN.

⁷³⁴ Abdulla KA, Davidson NM, 1996"A Woman who Collapsed after Painting Her Soles" *Lancet*: 348: 658

⁷³⁵ Pasricha JS; Gupta R; Panjwani S. 1980. "Contact dermatitis to henna (Lawsonia).," *Contact Dermatitis Jun*;
Vol. 6 (4), pp. 288-9; PMID: 7398290

⁷³⁶ Gupta B, Mathur A, Agarwal C, Singh A. 1986. Contact sensitivity to henna. *Contact Dermatitis* 15:303-304

⁷³⁷ Sir, Hashim, M., et al. 1992, "Poisoning from henna dye and para-phenylenediamine mixtures in children in
Khartoum." *Annals of Tropical Paediatrics: International Child Health*, v. 12 issue 1, p. 3-6.

⁷³⁸ Vicky, posted to The Henna Page Discussion Forum, July 27, 1997

<http://web.archive.org/web/20010309004733/http://www.hennapage.com/henna/discuss/messages/332.html>

accessed July 13, 2013

Black Henna

Posted by Vicky on July 27, 1997 at 02:26:49:

I have read a number of requests for black henna on this site and I just want to add that I KNOW for a fact that you can get a deep black color. When I lived in Egypt I had one foot and ankle done by a Sudanese woman. I left the paste on for about an hour then picked it off. I didn't have to re-wet the paste at all. The design stayed DARK black for over a month. I am very pale so that may have something to do with it. Unfortunately I don't know what the paste was made of. If anyone knows of this black paste (I desperately want some) or if anyone has any Sudanese friends could you please find out what it is made of. Thank you.

⁷³⁹ Ibid

⁷⁴⁰ Lynn Santure, posted to The Henna Page Discussion Forum, July 10, 1997.

<http://web.archive.org/web/20010729071727/http://www.hennapage.com/henna/discuss/messages/242.html>

.accessed July 13, 2013

Posted by Lynn Santure on July 10, 1997 at 17:00:48:

In Reply to: How to get black henna... posted by Karen on July 07, 1997 at 17:13:04:

In Tunisia they use a mixture of (I think) kohl, some kind of not, and cloves. It makes a thin type or "tar-like" paste and sits on the skin and is certainly black. My skin broke out twice after having it done to my hands twice and it does not spread as easy as henna paste does, so most of the designs are limited to dot patterns. But they are beautiful all the same.

⁷⁴¹ Sir, Hashim, M., et al. "Poisoning from henna dye and para-phenylenediamine mixtures in children in Khartoum." *Annals of Tropical Paediatrics: International Child Health*, v. 12 issue 1, 1992, p. 3-6.

⁷⁴² Gupta B, Mathur A, Agarwal C, Singh A. Contact sensitivity to henna. *Contact Dermatitis* 1986;15:303-304

⁷⁴³ Ghana1 My Joy Online. "Use of black henna or lele has fatal health implications - new research indicates."

ModernGhana.com. August 9, 2013. <http://www.modernghana.com/news/481004/1/use-of-black-henna-or-lele-has-fatal.html> (accessed September 28, 2013)

⁷⁴⁴ Leeming, Virginia. "Wedded to Tradition: Artistry and a sense of high occasion are evident in the wedding gowns of different cultures: BRIDES: There's beauty in tradition." *The Vancouver Sun* (British Columbia). February 20, 1996. LexisNexis Academic. Web. Date Accessed: 2013/04/09.

Women in many cultures, including the Sudanese, decorate their hands and feet with the henna designs, a process that requires more than five days to achieve the black pattern on the skin.

⁷⁴⁵ Matulich, Jacqueline and John Sullivan. 2005. A temporary henna tattoo causing hair and clothing dye allergy. *Contact Dermatitis* 53, no. 1:33-36.

⁷⁴⁶ Lauren. Comment, "Has any one heard of..??" posted to Bali Travel Forum April 7, 1999 by <http://www.balitravelforum.com/archives/199904/42686.html> (accessed September 28, 2013)

⁷⁴⁷ "Amunez Temporary Tattoos - Temporary tattoo paint in Super Black and Full Color for tattoos that are long lasting, durable, waterproof and easy to apply!" September 2, 2000.

<http://web.archive.org/web/20000902201744/http://www.amunez.com/> (accessed September 23, 2013)

⁷⁴⁸ Where To Get Your Amunez Tattoo http://web.archive.org/web/20001205232400/http://www.amunez.com/studio_locations.htm (accessed August 12, 2013)

⁷⁴⁹ What People Are Saying About Amunez Temporary Tattoo Paint. Captured by the Internet Wayback Machine, December 6, 2000. http://web.archive.org/web/20001206054200/http://www.amunez.com/what_about.htm (accessed September 28, 2013)

John Joyce - Dublin Ireland - "Great product, my first business success."

Dani Preyer - Forli Italy - "Lasted 20 days, fantastic, I'm hooked !"

Mizue Sone - Tokyo Japan - "Better than Henna or mehndi...this really lasts and looks so real...Fabulous."

John & Joane Spinks - Auckland New Zealand - "Just the business opportunity we've been waiting for...Amunez is a dream come true...its the best...the very best!!"

June Toogood - Kalgoorlie West Australia - "Mine lasted six weeks, I couldn't believe it, now I want to start a Amunez tattoo studio of my own."

Helene Manfrida - Cap D'agde France - "...impressed by this product, we're ordering a 'pro-kit'."

Jackie Gross - Sydney Australia - "Once I got a tattoo, the whole family wanted one...kids too. Its daring and its fun...just love the response from friends."

⁷⁵⁰ http://web.archive.org/web/20010607084611/http://www.amunez.com/tami_crew.jpg (accessed October 1, 2013)

⁷⁵¹ Temporary Tattoo Paint Products Price List. JAMAR Designs. Revised: March 28, 2000 Captured for Internet Wayback Machine November 9, 2000. Copyright © 1999 Amunez International. All rights reserved.

http://web.archive.org/web/20001205024800/http://www.amunez.com/Amunez_PriceList.htm (accessed September 26, 2013)

Amunez Tattoo Paint Powder has been tested by the Australian Chemistry Centre and was found to contain NO LEAD. (Certificate Reference 97E1240;3.1.1) It should be noted this product, like many others for skin application, may cause allergic reactions to some skin types. Please read the instructions and warnings enclosed with all Amunez products.

⁷⁵² SALE OF AMUNEZ INTERNATIONAL. Copyright © 2007 Amunez International. All rights reserved.

JAMAR Designs. Revised: September 18, 2011

<http://web.archive.org/web/20130424065518/http://www.amunez.com/> (accessed September 26, 2013)

SALE OF AMUNEZ INTERNATIONAL

On 1st May 2011 AMUNEZ INTERNATIONAL was purchased by WORLDWIDE COSTUMES AND COSMETICS LTD in Hollywood California, U.S.A. This group, under the umbrella of one of Hollywood's largest film studios is the provider of all costumes, cosmetics and special make up effects for the film and

T.V. industry. AMUNEZ INTERNATIONAL is no longer able to offer its range of products to the general public.

IMPORTANT NOTICE TO EXISTING CUSTOMERS

Under a deed of agreement AMUNEZ INTERNATIONAL can still offer products to EXISTING customers for a period of 5 years ending 1st May 2016.

EXISTING CUSTOMERS are registered in the AMUNEZ INTERNATIONAL computer data base and can therefore be easily identified.

NOTE:

If you are NOT an existing AMUNEZ INTERNATIONAL CUSTOMER – we apologize but we CANNOT sell you our products under ANY CIRCUMSTANCES. EXISTING CUSTOMERS can follow the normal procedure for ordering. If you have any queries please email the below.

Thank you
AMUNEZ INTERNATIONAL.

⁷⁵³ Team Tarawa. December 1998. Image last captured by The Internet Wayback Machine August 2001

<http://web.archive.org/web/20010814225706/http://www.tarawa.com/fotofamille.htm> (accessed September 28, 2013)

⁷⁵⁴ Blackhenna.net and Tarawa Comp. Captured by the Internet Wayback Machine October 1, 2000.

<http://web.archive.org/web/20001031045555/http://www.blackhenna.net/cgi-local/shop.pl/page=qsns.htm/SID=187073078018> (accessed September 28, 2013)

BLACKHENNA.NET
AND TARAWA COMP.
QUAI DI DOMENICO
34300.LE CAP D'AGDE .
FRANCE

tel: 0033 4 67 01 50 20.
fax: 0033 4 67 94 26 86.
WHOLESALE AND RETAIL
BLACK HENNA TATTOO

⁷⁵⁵ Temporary Tattoo Paint Products Ordering. BLACK HENNA.NET © AND PRODUCT Copyright INPI 1998

All Rights Reserved . Captured by Internet Wayback Machine October 6, 2000.

http://web.archive.org/web/20001019193536/http://blackhenna.net/vti_bin/shtml.dll/commandeanglais.htm

(accessed September 28, 2013)

⁷⁵⁶ Ibid

The attention of the customer is attracted on the fact that the present product can rarely lead as all beauty care products or medicines to an allergic reaction on the skin.

The customer will use the product under his responsibility and will assume the possible consequences of it when he orders it.

Once the product ordered, the responsibility of the retailer will not be called into question.

⁷⁵⁷ Blackhenna.net. Temporary tattoo paint in Super Black for tattoos that are long lasting, durable, waterproof and easy to apply! blackhenna.net has been producing temporary tattoo paints since 1997. Our product is now sold in over 21 countries and is also used in the movie and pop music industry. Captured by Internet Wayback Machine on June 15, 2000 through August, 2002. BLACK HENNA.NET © AND PRODUCT Copyright INPI 1998 All Rights Reserved <http://web.archive.org/web/20001004044543/http://blackhenna.net/cgi-local/shop.pl/page=acceuil.html> (accessed September 26, 2013)

⁷⁵⁸ THE TARAWA PROFESSIONAL BLACK POWDER KIT. FOR BEGINNING YOUR OWN BUSINESS YOU NEED 1 HOURS TIMES ! Captured by the Internet Wayback Machine February 4, 1999. TARAWA © AND PRODUCT Copyright INPI 1998 All Rights Reserved <http://web.archive.org/web/19990224202119/http://www.tarawa.com/anglaiprokit.htm> (accessed September 26, 2013)

WELCOME IN TARAWA WORLD

THE NUMBER 1 FOR BLACK HENNA TEMPORARY TATTOOS KITS

HE TARAWA PROFESSIONAL BLACK POWDER KIT

FOR BEGINNING YOUR OWN BUSINESS YOU NEED 1 HOURS TIMES !

YOU SAW THEM ON BEACH IN BALI, IN EGYPT, SECHELLES, AUSTRALIA, ECT...

TARAWA OFFERS to YOU the SAME PRODUCT OF BLACK TEMPORARY TATTOOING WITHOUT ANY HARMFUL PRODUCT FOR the SKIN .

TARAWA WAS DEVELOPED A NEW PRODUCT REVOLUTIONNAIRE AS REGARDS BLACK TEMPORARY TATTOOING. THIS PRODUCT PRESENT IN THE FORM OF POWDER AND YOU MIXT SIMPLY WITH WATER MINERALE. ONCE TATTOOING DONE, THE CUSTOMER SHOULD NOT TOUCH THERE DURING 60 A 90 MINUTES.

After The 90 Minutes rinse WITH WATER.le Black Tattooing Will hold On The Skin Of 7 DAYS(garanti) A 15 Days Following The Types Of Skin.THIS PRODUCED DOES NOT CONTAIN ANY HARMFUL PRODUCT FOR THE SKIN.

PROFESSIONAL "START UP" KITS: FOR BEGINNING YOUR OWN BUSINESS YOU NEED 1 HOURS TIMES

Price: . USD\$325. FRENCH FRANCS 1950FF

100 gr BLACK POWDER,

(100grams of paint powder will do a minimum of 400 'arm band' tattoo's, when used as per the instructions, or well over 600 assorted sized tattoo's).

⁷⁵⁹ Welcome to our store! 6 captures, 20 Sep 00 - 3 Aug 01 by the Internet Archive Wayback Machine

<http://web.archive.org/web/20000920035921/http://www.amazingbodyart.com/Order2.htm> (accessed September 28, 2013)

⁷⁶⁰ Congratulations and Welcome! Amazing BodyArt Hollywood. "Are you interested in trying out an 'All Natural' Henna (Mehndi) Temporary Tattoo?" Captures by Internet Archive Wayback Machine beginning January 25, 1999.

<http://web.archive.org/web/19990125093156/http://www.amazingbodyart.com/> (accessed September 29, 2013)

Our Black Henna Paste is non-toxic, super safe, fun and easy to use. At this time, Amazing BodyArt is one of only two distributors of Black Henna Paste in the entire U.S. of A.

You will not find this non-toxic Black Henna Paste anywhere else.

It comes in a plastic 20 gram tube. The paste ingredients are:

1. 100% Natural Super Sieved Henna Powder
2. Alcohol
3. Tartaric Acid (Used in baking products and candy)
4. Synthetic Colors
5. Distilled Water

One 20 gram tube of Black Henna Paste will yield 10 to 15 tattoos. We find mixing the black paste with our Black Ink Additive will give you a blacker longer lasting stain. Gloves are recommended.

It's fun and easy not to mention your clients and friends will love it!

⁷⁶¹ Congratulations and Welcome To... Big Bang Products: How To Make Up To \$460 A Day And More Working Only Part-Time Guaranteed! Amazing BodyArt Supply. 11 captures from 8 May 99 to 5 Apr 01 by the Internet Archive Wayback Machine

<http://web.archive.org/web/19990922045013/http://www.amazingbodyart.com/newpage11.htm> (accessed September 26, 2013)

Congratulations and Welcome To...

Big Bang Products

How To Make Up To \$460 A Day And More Working Only Part-Time Guaranteed!

(Print this page for easy reading)

Dear friend, By reading this article you'll learn:

1) How you can start making \$460 a day with the super 'Hot' Henna Temporary Tattoo craze even if you're flat broke.

2) How to create professional henna/mehndi tattoos within 30 minutes and you don't need any artistic talent whatsoever. It's quick and easy and what's so incredible is you'll make all your money while sitting in your patio lawn chair!

You are about to discover how to turn the latest henna temporary tattoo craze into a money making bonanza just by following a simple plan in the Henna Temporary Tattoo Kit.

Make More Money In One Day Than Many Make In A Week

I absolutely guarantee that my Henna Temporary Tattoo Kit along with my free Henna lessons will start making you money the day you receive it.

It doesn't matter if you're 8 or 80, collage grad or drop-out, you'll never find an easier method for making money and meeting lots of pretty girls and guys without any effort whatsoever. Lots of money quickly.

If you can sit in a lawn chair, put up a simple sign and count \$20.00 bills all day then this may be for you.

It Doesn't Matter, Summer, Spring, Winter, Fall; Year Round Henna Tattoos Are In Super High Demand!

In all honesty, when I first started as a henna tattoo artist I wasn't prepared for the overwhelming response... \$320 my first 4 hours and I never even had to advertise!

How Does The Plan Work?

Right now, people all over the country want a henna tattoo but in most cases the nearest artist or henna supplies are hundreds or even thousands of miles away. We get hundreds of emails at our web site requesting information on the nearest henna tattoo artist. That's where you come in the picture.

My Henna Temporary Tattoo Kit will show you how to make professional henna/mehndi tattoos the moment you open it. If you can use a stencil or trace pre-printed designs then you can be a professional henna artist.

In addition, the Kit will show you how to get people coming to you in droves for henna tattoos. It's super easy. Henna tattoos are hot and there's no sign of it leveling off.

People Everywhere Are Desperate For Henna Tattoos

In most cases, you'll be the first in your community to offer henna tattoos so we caution you to be prepared for the rush. It's a natural word of mouth draw and it is not uncommon for lines of anxious tattoo seekers to form quickly at your tattoo site.

It works in warm weather or cold weather. Wherever there is foot traffic you'll have it made. Do you know where there is a busy mall or street fair or annual event? These are only a few suggestions you'll get with your kit to find crowds that will overwhelm you for a henna tattoo.

Here in southern California we've seen as many as five henna artists work side by side and each had a half a dozen or more people waiting in line eager to spend \$20.00 or more for their tattoo. If you own or work in a Salon you may soon find that you'll have to train and hire other artists to help you with the work load.

The going rate for a henna tattoo is \$10 to \$20, and on average takes ten to twenty minutes to do. By following the simple steps in the Tattoo Kit you'll be doing 8 to 23 tattoos in a single sitting. At minimum, could you use \$160 and invest a few hours worth of your time?

Your Investment Will Yield \$1,000 to \$1,500 In Fun And Profit

Your Henna Temporary Tattoo Kit has enough supplies to make 100 to 150 tattoos pending on the size. That's a whopping \$1000.00 to \$1500.00 in profit and fun. This does not include the more elaborate designs you'll be asked to do (some charge \$150.00 and more for full hands and feet tattoos - not to worry your henna kit will show you how to do these tattoos and what you can charge).

Yes it's all there... YOUR COMPLETE Henna Temporary Tattoo Kit comes with a quick start guide that will have you making professional henna/mehndi tattoos in 30 minutes or less. Plus with the cool reusable stencils you get, you can start making money the minute you open your kit.

Try It At No Risk!

I'm so positive my Tattoo Kit will bring you as much as \$460 your first weekend that I'll let you test it at my own risk.

Get my Henna Temporary Tattoo Kit, follow the simple instructions and if you're not absolutely amazed at your income you may return the Kit for a refund at any time. That's right... a Life-Time Guarantee!

All across the country people are making incredible incomes. I spoke to a college student in Florida who is taking in an average of \$500 dollars a weekend for a combined total of 8 hours worth of work. I was amazed to learn about a Salon owner from Louisiana who was so busy with henna tattoo requests... she had to hire and train two local high school students to help her with the work load.

First Come... First Serve!

Understand that when it appears that offering my Henna Temporary Tattoo Kit to too many people in one area and it begins to threaten the profits of others, I will immediately stop letting anyone into the program.

I know beyond a shadow of a doubt that this is the hottest, easiest money-maker happening at this time and I want to share it with you. I urge you to Act Right Now Today!

Now it's your turn. You deserve to be your own boss. No matter what your age, talent or gender within a one week you'll be turning people away and pocketing dozens of \$20 bills. I guarantee it!

TOO MUCH BLUE SKY YOU SAY?

Let me put your mind at ease. The Henna Temporary Tattoo Kit is a proven program that enables you to make money as a professional henna/mehndi artist within 30 minutes after you receive your kit whether you can draw or not, with an easy, proven successful plan. You'll be doing exactly what others have done before you.

Here Is What You'll Learn To Make You Money As A Professional Henna Artist

- ** How to get your phone ringing off the hook with people who'll want you to give henna tattoos privately, at their Salon or at their next party or get together.
- ** How to get them coming in droves to your work site or place of business for Henna Tattoos.
- ** How to get others to work for you for free and send you more business than you can handle.
- ** How to work only weekends and make more money than most people make working full-time.
- ** How to go anywhere in the world at the locations of your choice and create an instant cash flow.

The best thing about what you'll learn with the Henna Temporary Tattoo Kit is there is no selling to do. All you need is the skill that you can learn in minutes and you can get started right away.

100% RISK FREE, LIFETIME GUARANTEE!

As soon as you receive your Kit you can get started right away. Henna Tattoos are here to stay but it doesn't hurt to get in while it's still sizzling 'Red Hot!'. Hope to hear from you soon.

Sincerely,

Jodie McMillan - Amazing BodyArt Hollywood Inc.

P.S. Order your Kit now and get Free Advertising Instructions on how you can start making money the day you receive it even if you're flat broke. You'll see how to get them coming to you in droves. Make a full-time income working only weekends. Go anywhere in the world and create instant cash-flow.

P.P.S. If you have any questions, please give us a call for free consultation.

We accept Visa, MasterCard and American Express!

Plus if you order by the date above we'll include 2 packets of our Black Henna Powder... Just add water and make black henna tattoos. This will enhance sales dramatically considering many of your clients will request black henna tattoos. And you guessed it, you can charge your customers an additional cost for black henna tattoos. A \$12.95 Value.⁷⁶¹

⁷⁶² “Frequently Asked Questions.” Captured by the Internet Wayback Machine from October 1, 1999 to June 2001.

<http://web.archive.org/web/20001202060500/http://www.amazingbodyart.com/frequent.htm> (accessed September 28, 2013)

Does henna come in black or other colors?

A pure henna mixture - no. The images of mehndi designs on the body presented by the media tend to show applications with the mehndi paste on or use a black mehndi paint (often difficult to find) like the ones presented on this web site. The media is not to blame because the black henna look is more visually explicit for newspapers and television. If you come across "black henna powder" or "colored henna" know that it is the result of pigments being added to the powder. The 'Color' henna at the Amazing BodyArt web site are harmless and completely safe color additives.

⁷⁶³ “Black Henna Powder & Black Henna Tattoo Kits. Captured by Internet Archive Wayback Machine August 2001.” <http://web.archive.org/web/20001216235200/http://www.amazingbodyart.com/newpage14.htm> (accessed September 28, 2013)

Disclaimer: By using this product Amazing BodyArt Hollywood does not accept responsibility for any damage from use. If you are unsure about sensitivity or allergic reactions to black powder, do a test on a spot of the skin behind the ear where it is most sensitive and watch for reactions over a 24 hour period. One in a thousand may have an allergic reaction such as redness of skin under tattoo and small bumps. This product is not intended for use around the eyes, mouth or for internal ingestion. Do not use on broken skin. Intended for use on individuals 18 and up.

If reaction does occur we suggest using 100% Aloe Vera Gel. Apply to area in morning and at night and reaction will go away by 3rd day.

⁷⁶⁴ “Congratulations and Welcome To... Big Bang Products: The Henna Artist Kit Is A Money Making Program That Really Works. Read What Others Have to Say.” Captured by the Internet Wayback Machine from October 22, 1999 to June 28, 2001.

<http://web.archive.org/web/19991002083642/http://www.amazingbodyart.com/testimon.htm> (accessed September 28, 2013)

The Henna Artist Kit Is A Money Making Program That Really Works

Read What Others Have to Say

IT LITERALLY RAINED \$20 BILLS... "I simply applied the steps in the Artist Kit and I was swamped with request for henna tattoos" G. Hokins - Canada

\$390.00 MY FIRST DAY... "I sent away for the Henna Artist Kit and I made \$390.00 my first day. I'm only 19 years old and would like to thank you for allowing me the opportunity to be a part of this thriving business! Donald N. Dike - Virginia

WILL OPEN A WHOLE NEW WORLD... "This program is one of the best opportunities I've come across. My \$149.00 investment has been worth every penny. Now I can travel anywhere in the world and make money" S. Foster Chandler - Oklahoma

A NEW WAY OF LIFE... "I had to admit that when I first received the Artist Kit I was skeptical. It wasn't at all what I expected, and I intended to start immediately if only to prove the program wouldn't work and get a refund. To my surprise, I soon discovered that the program did indeed work in fact I'm already having to turn away work" K. Nguyen - California

IT CAME WHEN I HAD NO IDEA WHERE RENT WAS COMING FROM... "Your program has helped me build the self-confidence in running my own business-- I made \$2180.00 my first two weekends working only part-time. It came when I was financially down and had no idea where rent was coming from." Betty Lvedtke - Oregon

You're Next!

Send us your testimony and with your permission we'll post it right here on this page.

⁷⁶⁵ "Black Henna Kits. NEVER AVAILABLE TO THE PUBLIC BEFORE!!!! PROFESSIONAL QUALITY

BLACK HENNA." 221 captures by the Internet Archive, December 3, 10 August 10, 2013

<http://web.archive.org/web/20130727073729/http://www.blackhennakits.com/> (accessed September 29, 2013)

⁷⁶⁶ FDA. "Black Henna Ink, Inc." 14-Aug-06. *FDA U.S. Food and Drug Administration. Department of Health and Human Services. Inspections, Compliance, Enforcement, and Criminal Investigations.* Accessed November 3, 2013.

<http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2006/ucm076032.htm>

Black Henna Ink, Inc. 14-Aug-06
Department of Health and Human Services' logoDepartment of Health and Human Services

Public Health Service
Food and Drug Administration

555 Winderley Place, Ste. 200
Maitland, FL 32751
Telephone: (407) 475-4700
FAX: (407) 475-4769

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

WARNING LETTER
FLA-06-32

August 14, 2006

Mr. Ronald I. Wells
Black Henna Ink, Inc.
9861 West Sample Road #196
Coral Springs, FL 33065

Dear Mr. Wells:

This letter concerns your firm's sale and distribution of your product "Super Black Henna Powder" (also referred to on your Internet web site, www.blackhennausa.com, as "Black Henna Tattoo Powder"). According to statements on your website, your product is sold for use as a temporary tattoo; that is, it is intended to temporarily color the skin in a decorative fashion. This product meets the definition of a cosmetic in section 201(i) of the Act because it is intended to be applied to the human body for "cleansing, beautifying, promoting attractiveness, or altering the appearance." This product is in serious violation of the Federal Food, Drug, and Cosmetic Act (the Act). You can find the Act and regulations on the FDA website at www.fda.gov.

Your product is adulterated under section 601(e) of the Act [21 U.S.C. 361(e)], in that it is a cosmetic and it bears or contains a color additive that is unsafe within the meaning of section 721(a) of the Act [21 U.S.C. 379e]. Recently, FDA collected a sample of your product. FDA analysis found the product contains approximately 28% of the color additive p-phenylenediamine (PPD). A color additive is deemed to be unsafe within the meaning of section 721(a) unless there is in effect, and the additive and its use are in conformity with, a regulation listing the color additive for such use. There is no regulation listing the color additive p-phenylenediamine as safe for use in coloring the skin.

We request that you take prompt action to correct these violations. Failure to properly correct these violations may result in enforcement action without further notice. The Act provides for the seizure of illegal products and injunctions against the manufacturer and/or distributor of illegal products.

Please notify this office in writing within fifteen (15) working days of the receipt of this letter as to the specific steps you have taken to correct the stated violations, including an explanation of each step being taken to identify violations and make corrections to ensure that similar violations will not recur. Include any documentation necessary to show that correction has been achieved. If the corrective action cannot be completed within 15 working days, state the reason for the delay and the time frame within which the corrections will be implemented.

Your reply should be sent to the attention of Shari H. Shambaugh, Compliance Officer, U.S. Food and Drug Administration, 555 Winderley Place, Suite 200, Maitland, Florida 32751.

Sincerely,

/s/

Emma R. Singleton
Director, Florida District

⁷⁶⁷ Black Henna Kits. NEVER AVAILABLE TO THE PUBLIC BEFORE!!!! PROFESSIONAL QUALITY

BLACK HENNA. 221 captures by the Internet Archive, December 3, 10 August 10, 2013

<http://web.archive.org/web/20130727073729/http://www.blackhennakits.com/> (accessed September 29, 2013)

NEVER AVAILABLE TO THE PUBLIC BEFORE!!!!

PROFESSIONAL QUALITY BLACK HENNA

You can do it yourself! No drawing talent needed. We have made it simple. Our black henna kit can make anyone a “do it yourself” professional henna tattoo artist. For less than the cost of one armband or tribal, you can get enough professional black henna to do dozens of beautiful temporary tattoos.

THE SECRET IS OUT

We are the only source for professional grade black henna that produces realistic super black henna tattoos.

Our black henna kit gives super jet black temporary tattoos that last up to three weeks and sometimes more.

Can you color? Can you stay within the lines? Then you can do this. There’s **ABSOLUTELY NO DRAWING ABILITY NECESSARY.**

Get the product professionals henna artists use at fairs, festivals, beaches, concerts, and clubs.

You can learn to be a professional henna artist for fun and/or profit

Until now the kits available in stores and on the Internet were not what the professionals used (None of those kits contained the super black, high grade black henna that henna artists use). You’ve never been able to get this product from beauty supply houses or even from your local retail stores. It’s just not available. In the past, professional henna artists have kept their sources a secret. **BUT THE SECRET’S OUT!!!** Our professional grade black henna is now being made available to you. You’ve found the source for true black henna. If you want what the professional henna artists are using at at fairs, beaches, malls, nightclubs, carnivals, arts and craft shows, concerts – **THIS IS IT!!!** – We can teach you all you need to know to become a “professional” henna tattoo artist.

Stop spending a fortune for black henna tattoos.

Don’t pay the exorbitant prices that henna artists at malls and concerts are charging.

For less than twenty bucks you can do twenty to thirty black henna tattoos on yourself, your family, your friends or paying customers.

Don’t be fooled by artists and kits that offer regular henna which turns a reddish brown in color. These products are usually hard to make and even harder to apply. Plus, most don’t give you a color that shows up well on the skin or lasts very long. Even the black and colored pastes available in stores and on the Internet don’t work well. None of them are really super black and none of them last up to three weeks.

OUR BLACK HENNA LASTS UP TO THREE WEEKS!!!

Make them think you got a real tattoo.

⁷⁶⁸ Black Henna Kits. Frequently Asked Questions. 126 captures by the Internet Archive Wayback Machine

November 25, 2001 to August 16, 2013

<http://web.archive.org/web/20011125124423/http://www.blackhennakits.com/faq.htm> (accessed September 29, 2013)

Can I be allergic to this product?

Yes, you can be allergic. If you are allergic to PABA found in some sunscreens or to hair dyes, especially dark ones, you're probably allergic and should not use this product. We recommend that everyone using this product do a patch test prior to use. Even if you have done it before, ALWAYS DO A PATCH TEST. Follow the directions provided in the kit. Should you have an allergic reaction, it is best to seek medical attention. We've been told that doctors sometimes prescribe a topical hydrocortisone cream (or steroidal cream) and Benadryl (or other antihistamine drugs) for the itch. IF IT ITCHES, DO NOT SCRATCH IT, as scratching could possibly make it worse and can lead to other problems.

⁷⁶⁹ Little Miss Henna. Captured by the Internet Archive nineteen times between June 2001 and February 2004.

<http://web.archive.org/web/20021211180653/http://www.littlemisshenna.com/little.htm> (accessed October 31, 2013)

Little Miss Henna, located in Thornhill, Ontario applied more than 20,000 TATTOOS in 1998 alone. Little Miss Henna focuses on Corporate Events, Birthday Parties, Sweet Sixteen's, Bridal Showers and Bar/Bat Mitzvah's and charity fund raising events (i.e. United Way Foundation, Best Buddies Organization and Reena Foundation).

Little Miss Henna has done over 500 including fun fairs, bar/bat mitzvahs, sweet- sixteen's and corporate/charity events parties.

Little Miss Henna has participated and applied Henna Tattoos at numerous charity events of the United Way, Cystic Fibrosis, Rena Foundation, Cindy Berk Foundation, Pencer Brain Trust Foundation Cancer Charity Event, UJA Israel Walk 1999 & 2000.

⁷⁷⁰ "What is Henna" *Little Miss Henna*. Captured April 7, 2001 by the Internet Wayback Machine.

<http://web.archive.org/web/20010407195237/http://www.littlemisshenna.com/about.htm> (accessed October 31, 2013)

Are other colours available?

Aside from red henna, the only other colour available is black henna (saumer). The all natural black henna (saumer) has become extremely fashionable and popular because it gives similar tone to that of a permanent tattoo (but like red henna, is temporary).

⁷⁷¹ The Whimsical World of Little Miss Henna. *Little Miss Henna*. Captured by the Internet Archive, April 4, 2001.

<http://web.archive.org/web/20010404222500/http://www.littlemisshenna.com/storyoflittlemisshenna.htm> (accessed October 31, 2013)

⁷⁷² "Job Opportunities." *Little Miss Henna*. Captured April 7, 2001 by the Internet Wayback Machine.

<http://web.archive.org/web/20010407223515/http://www.littlemisshenna.com/jobs.htm> (accessed October 31, 2013)

If you are artistic, outgoing, and enjoy having fun, then Little Miss Henna is looking for you. Send us an email via the Contact us page to apply for a summer job.

We are looking for personnel in the following cities:

Toronto, Ontario
Charlotte, North Carolina
Cincinnati, Ohio
Richmond, Virginia
Houston, Texas
San Antonio, Texas
Santa Clara, California
Hartford, Connecticut

⁷⁷³ Care for your Henna Tattoo. *Little Miss Henna*. (captured by the Internet Archive April 7, 2001)

<http://web.archive.org/web/20011026123401/http://www.littlemisshenna.com/hennacare.htm> (accessed October 31, 2013)

Let the henna design dry for approximately 25-30 minutes. Drying time may increase due to weather conditions.

You are advised to avoid contact with water, until the tattoo is totally dry and peeled off. Contact with water may discolor the tattoo.

Once the henna tattoo is completely dry, peel off the top portion. The tattoo design will remain underneath. Wash the area where the tattoo has been applied with soap and water to ensure that all the remains have been peeled off.

Henna is known to stain clothing. Please avoid contact with clothing near wet henna tattoos.

Contact with a wet tattoo results in a smudge. Avoid contact of a wet tattoo to prevent smudges.

Your tattoo should last 7-14 days depending on your own body's skin type and how you care for your henna tattoo.

If you swim in chlorinated water while you have your tattoo, apply a SPF Waterproof sunscreen to the design. Chlorine acts as an exfoliate to the skin and may cause the tattoo to fade faster.

Allergy Alert

Even though henna is a natural product, everyone's skin is different. In very extreme circumstances, some individuals with sensitive skin may experience an allergic reaction / skin irritation. Symptoms of this reaction may include, itchy, redness, inflammation, and / or blisters underneath the tattoo. If you experience a skin irritation, it is highly recommended that you consult a physician immediately and apply a prescribed topical anti-inflammatory steroid cream. The cream Desonide .05 mg. is one cream that is recommended to be used.

*** Avoid scratching the area where the skin irritation has occurred, as this could cause an infection to irritated skin. ***

⁷⁷⁴ Job Opportunities. *Little Miss Henna*. Captured by the Internet Archive April 7, 2001.

<http://web.archive.org/web/20010407223515/http://www.littlemisshenna.com/jobs.htm> (accessed October 31, 2013)

Little Miss Henna does temporary Henna Tattoos in theme parks. We are in search of enthusiastic, outgoing, mature, responsible, artistic students who are willing to work outdoors throughout the summer.

You must be 16 years old or older.

Do you like to have fun ???

And want to get paid for it !!!

Then we have the perfect job for you!!!

We offer the following:

Experience Artistic Design Application

A challenging position in a fun atmosphere

Flexible Hours

Excellent earning potential

Good Working environment

Free admission to the parks

Interaction with lots of new people of all ages

Great Salary per hour PLUS Bonus and Commission

⁷⁷⁵ What is Henna? Little Miss Henna. Captured by the Internet Archive October 16, 2003.

<http://web.archive.org/web/20031223010401/http://www.littlemisshenna.com/about.htm> (accessed October 31, 2013)

⁷⁷⁶ Little Miss Henna, posted to Paradigm Events, December 12, 2008. <http://paradigmevents.com/little-miss-henna/> (accessed October 31, 2013)

⁷⁷⁷ Maia. Comment, "more black junk on the market" posted to *The Henna Page Discussion Forum* April 30, 2001. <http://web.archive.org/web/20040224095519/http://www.hennapage.com/henna/forum-archives/messages/38328.html> (accessed October 31, 2013)

I was at my local theme park this weekend (Astroworld) when I saw the henna tattoo booth. I walked over to see they offered the regular henna tattoo and black henna. I questioned the girl working there to hear that they had taken it off the market last year for health concerns but when sales dropped they did some research and felt it was safe after all and brought it back. She gave me the company website. www.littlemisshenna.com ...

⁷⁷⁸ Wakelin, S H, D Creamer, R J Rycroft, I R White, and J P McFadden. 1998. "Contact dermatitis from paraphenylenediamine used as a skin paint." *Contact Dermatitis* 39, no. 2: 92-93. MEDLINE with Full Text, EBSCOhost (accessed April 7, 2013).

St John's Institute of Dermatology, St Thomas's Hospital, London, UK.

⁷⁷⁹ "Black Henna Tattoo" posted to *Best Beauty Advice*, accessed July 17, 2013, <http://bestbeautyadvice.com/?p=683>

I learned how to do them while visiting a beach town in Mexico. A local shop offered henna tattoos that were black instead of the traditional brown/red. Everyone in my party of 15+ got one. We loved it! After giving him so much business, we asked if we could buy some of his henna from him. He was so nice and walked us a few blocks away to the pharmacy and showed us what he used. You will never guess.. Asian Hair Dye! This is the exact kind that he used.

⁷⁸⁰ Beck M. Comment, "Re: What's Madonna wearing?????" posted to *The Henna Page Discussion Forum*, August 22, 1998

<http://web.archive.org/web/20010504045315/http://www.hennapage.com/henna/discuss/messages/4113.html>

(accessed October 24, 2013)

In a previous post on this page we were told straight from the source that Madonna's "black henna" was NOT HENNA. It was done with Chinese hair dye. And that was straight from the salon where she had it done.

⁷⁸¹ Danilo Steven Pervera. Henna Tattoo. Uploaded to YouTube.com Mar 13, 2008

<http://www.youtube.com/watch?v=qzZACEbXr64&feature=related> (accessed October 24, 2013)

"how is it that your henna is black? is this what's called black henna or does it come because you put alcohol in it? pls tell me cuz my henna comes out greenish and leaves an orange mark on the skin. also i cant read ingredient [C] in the beginning :D pls tell meh."

"it's black because i'm using BIGEN henna powder (hair dye)... it is a bit risky because it has an adverse effect if you are hypersensitive with some of its components.."

⁷⁸² Bigen Permanent Powder Hair Color - Oriental Black 59. *Kroger*.

<http://grocery.kroger.com/pd/Bigen/Permanent-Powder-Hair-Color-Oriental-Black-59/0-21-oz/033859905592/>

(accessed October 24, 2013)

⁷⁸³ "6x Bigen 58 Black Brown Permanent Hair Color 6 gm 6 packs \$43.15." *KhanaPakana Wake Up Taste Buds*.

<http://shop.khanapakana.com/6-x-bigen-58-black-brown-permanent-hair-color-6-gm-6-packs/> (accessed October 24,

2013)

⁷⁸⁴ "'Natural Expressions" Black & Brown Black Dyes." *Natural Expressions*.

<http://web.archive.org/web/20011230054526/http://www.naturalexpressions.org/black.html> (accessed October 24,

2013)

These products are similar to what's being used on the beaches in FL, CA, Mexico, Spain etc... it's not Black Henna as many are marketing it but a Hair Dye that's being used to make Black Tattoos.

NOTE: These products are intended for use on the hair.

NOTE: These products contain ingredients (such as PPD'S) which may cause skin irritation.

⁷⁸⁵ "PEACOCK hair dye." *NYC Inc Ltd.* Jiangsu, China http://nyc.en.alibaba.com/product/520633174-218338328/PEACOCK_hair_dye.html (accessed October 24, 2013)

⁷⁸⁶ "PEACOCK hair dye." *NYC Inc Ltd.* Jiangsu, China http://nyc.en.alibaba.com/product/222928652-218338328/Peacock_Hair_dye.html (accessed October 24, 2013)

⁷⁸⁷ Laila. Comment "Reg'd peacock hair dye on skin ?" posted to *Yahoo Answers*, 2011.

<http://answers.yahoo.com/question/index?qid=20110723210032AA3HhQh> (accessed October 24, 2013)

⁷⁸⁸ Faiza Ilyas. KARACHI: Chemically-laced mehndi in widespread use. September 28, 2008. Dawn.com <http://archives.dawn.com/2008/09/29/local12.htm> (accessed September 2, 2013)

A number of the mehndi (henna) and black mehndi brands on the market are adulterated with toxic and/or carcinogenic substances which can not only cause instant allergic reactions but may also enter the blood stream via the skin, Dawn has learnt.

The widespread sale of such hazardous dyes is made easier by the fact that there is no law specifically covering the adulteration of cosmetic products.

An analysis of various popular mehndi and black mehndi brands revealed the presence of toxic chemicals, metals, organic solvents and textile dyes, most of which are carcinogenic in nature. Despite the fact that hospitals report a large number of cases in which people's skins have been damaged or scarred after using adulterated mehndi, the market continues to thrive. This can be traced not only to public ignorance, but the fact that there is a legal vacuum given that no section of the Drugs Act 1976 deals specifically with the use of chemicals in cosmetic products. As a result, all sorts of hazardous chemicals continue to be sold openly at Jodia bazaar, including dangerously adulterated mehndi.

Shopkeepers told Dawn that there are between 30 and 40 brands of mehndi on the market, none of which give a detailed list of ingredients. "Each manufacturer has his own secret formula," informed a shopkeeper. "Mehndi is available in different colours, forms and fragrances, some of which can colour the skin or hair as fast as within five minutes. Black mehndi, which is popular as a hair dye, is also used to prepare various glitters, a substance used to make a dark outlining pattern on the hands that is then filled in with a different shade of mehndi, and a substance like nail polish which is called 'nail arq'. These cosmetic products have also been introduced on the market."

Meanwhile, a shopkeeper in the section of Jodia bazaar that deals with chemicals, said that sodium picramate, turpinol (commonly called mehndi oil), oxalic acid and titanium dioxide are mixed with mehndi powder to intensify and accelerate the colourant's effect.

A preliminary qualitative analysis of five popular mehndi brands, including common mehndi, extracts of the henna plants (*Lawsonia inermis*) and black mehndi, was carried out by Dr Nasiruddin Khan, the head of

the centralised science laboratory at Karachi University. He found that the samples contained traces of toxic chemicals, organic solvents and textile dyes, most of which are carcinogenic. “These heavily-laced products are sold with the claim that they will give instant colour, which is not only adulteration but also open deception since there are no details about the ingredients,” he pointed out.

Dr Khan informed Dawn that the tests he carried out showed that turpinol and camphor, highly volatile organic solvents that enter the blood stream when they come into direct contact with the skin or when their fumes are inhaled, had been added to the mehndi. Turpinol is a bleaching agent while camphor produces a cooling affect as it evaporates rapidly. Organic solvents of any sort damage skin cells and have wide-ranging side effects.

“Most organic solvents contain benzene ring compounds whose hazardous effects are well-known,” he said. “Oxalic acid is a bleaching agent generally used for removing kitchen stains and polishing wood. We also found that the samples contained traces of textile dye, including pyrogallol and disperse orange dye, which are carcinogenic.”

Other harmful substances found in the mehndi samples included toxic metal salts such as lead, nickel and chromium, which Dr Khan believes are used to intensify colour. “These substances damage human health directly, and meanwhile unnecessarily introduce toxic metals into the environment where they contaminate ground water and contribute aquatic pollution,” he commented.

Another substance found in the mehndi samples was sodium picramate, the salt of picric acid. “That is a very strong and dangerous chemical,” said Dr Khan. “Before trinitrotoluene became popular, sodium picramate was used as an explosive and is still sometimes put to that use. It reacts with body protein to develop colour, and it is one of the main ingredients in ‘instant’ mehndi.”

Dr Khan’s investigations revealed that black mehndi also contains Paraphenylenediamine (PPD) which is used in hair dyes all over the world, but in strictly-regulated concentrations. The black mehndi samples he tested, however, had concentration of PPD varying between 10 and 60 per cent. “The irony is that the package labels do not specify whether the dye is for the hands or the hair,” he pointed out. “High concentration of PPD can cause severe damage and should not be applied directly to the skin.”

According to information available on the Internet, PPD penetrates deep into the skin, reaching the dermis (living cells) and then passing into the blood stream. This is extremely dangerous since PPD toxins subsequently collect in the liver and cause liver and kidney damage. The prolonged presence of PPD can cause cancer in these organs.

Doctors say that while not all the people exposed to the hazardous substances in mehndi develop skin problems, a significant number of patients report to government and private hospitals in this regard.

The Institute of Skin Diseases, Karachi, receives up to 50 patients a day complaining of skin problems that are due to the use of substandard hair dyes such as black mehndi and common mehndi. The head of the institute, Dr Sikandar A. Mahar, told Dawn that most people come with allergic symptoms such as rashes, swelling, blisters and itchiness. “The treatment is symptomatic and patients are advised to refrain from using hair dyes that contain ammonia,” he said.

Similarly, Professor Dr Zarnaz Wahid of the Civil Hospital Karachi said that such patients are received at his institution as well. “Natural mehndi, which is derived solely from the plant, does not cause allergies,” he explained. “Skin problems related to the use of chemically-laced mehndi are often traced to beauty salons which apply a PPD preparation.”

Patients suffering allergic contact dermatitis caused by adulterated mehndi also go to the Aga Khan University Hospital whose consultant dermatologist, Dr Naseema Kapadia, told Dawn that “while we don’t have any tabulated data about such patients, the problem is common. We usually get such cases during the wedding season and at Eid.”

That the adulteration of commonly-used mehndi has become so large-scale is unsurprising given that there is no law regulating the use of chemicals in cosmetics.

The Drugs Act 1976, which is the relevant legislation, has no provision referring to the use of chemicals in cosmetic products. This gives manufacturers a free hand to use any chemical in any proportion.

When approached by Dawn, the executive district officer (health) Dr A. D. Sajnani conceded that the legal vacuum existed. "Yes there is a need for laws on the use of chemicals in cosmetic products," he admitted. "Beauty salons are issued licences and are inspected in terms of the working conditions of the employees, but there are no restrictions on the type of products they use. There ought to be some regulations since chemicals can be allergens or carcinogenic."

"The misuse of chemicals in local cosmetics poses a serious health hazard and there is a dire need to incorporate this concern in the existing drugs act," agreed Dr Qaiser Sajjad, former secretary-general of the Pakistan Medical Association. "However, it must be emphasised that laws alone cannot safeguard public interest if the government itself fails to enforce the laws. This failure is evident in the business of manufacturing counterfeit drugs, which is thriving despite the fact that the law prescribes harsh punishment for offenders. Furthermore, people should refrain from using or encouraging products that are sold without full lists of ingredients and dates of manufacture and expiry."

Pure mehndi, or henna, is entirely natural and is extracted from the henna plant. According to Dharamdas Rajani, the president of the Sindh Abadgar Board, Dadu, natural mehndi has to be soaked in liquid for two to three hours before it can be used. Depending on the weather conditions, the drying period can vary from half an hour to two hours.

"No natural mehndi can give instant colour in five minutes, or any colour other than chocolate-brown or orange-red. There is no natural black mehndi," he said. "Any product that claims such fast colouring action or different colours is bound to be mixed with strong chemicals."

Mr Rajani added that mehndi is grown mainly in district Dadu, along the bank on the Indus River, particularly in Mehar.

The safety of henna as a hair colourant was evaluated in 2005 by the European Union's Scientific Committee on Cosmetic and Non-Food Products. The committee concluded that lawsone (also known as hennotannic acid), which is a red-orange dye present in the leaves of the henna plant and is the principal colouring ingredient in mehndi, was mutagenic and unsuitable for use as a hair dye.

⁷⁸⁹ 5x 30 GMS Black color Indian Mehndi Henna Tattoo Paste Cone belly ink tattoo kit.
http://www.ebay.com/itm/5x-30-GMS-Black-color-Indian-Mehndi-Henna-Tattoo-Paste-Cone-belly-ink-tattoo-kit-/261106998774?pt=LH_DefaultDomain_0&hash=item3ccb309df6 (accessed September 30, 2013)

\$3.99 Economy Shipping from outside US. See details about international shipping here.
Item location: KHANNA, PUNJAB, India
Ships to: Worldwide

Export Quality. Fast Color. Black Heena. Get Set Go.

Welcome to the world of Mehendi™ (henna), also popular as Madarangi!. The Beautification of hands and legs has its own traditional way of enhancing the beauty of a woman irrespective of Cast and Religion, the Worldwide.

With India as the origin Mehendi has its wonderful hands structured across the world and win over the hands and logo of all the females in the world.

Mehandi is becoming so powerful a media of artistic expression that even the barrier of gender is crossed and conquered. In the entire world Mehandi is becoming a household name with newer innovative use of it is being explored day by day.

In India at large and Northern India in particular no Bride is complete without Mehandi, A separate day of the festivities of Mehandi itself is celebrated prior to some days before the marriage. The entire family and friends assemble and celebrate the Mehandi Celebrations along with the Bride and have various "Mehandi" designs put on their hands, Legs and shoulders also nowadays. Thus it has become an inevitable commodity for not only marriages but all other auspicious occasions.

There was a time wherein people collected the mehandi leaves from gardens and make an uneven pulp and try to apply with sticks which was to be not in uniform state, the complicated designs were not possible.

With changed time and technology the mehandi is in ready to use condition with total safety for the body and the limbs and also with it any and every intricate designs can be created easily.

The art of mehandi has its own historical importance in India. It is hundreds of years old. Arabic designs, Jardsosi designs, mughal Designs are some of the designs which are centuries old and are still popular in country.

Mehandi has been a tradition in the history than a source of beautification, as of now. Formerly it was one of the essentials of a Royal Family. Which has become very popular now to reach all the hearts with an eye for beauty including males.

Thus if by using mehandi, you will be embracing the Royal art to your art and sharing the Joy of History and Accepting the Hi-tech Technology both at a time.

Almost every house in India know how to prepare mehandi as it is a part of cottage industry in the country

⁷⁹⁰ York, Melissa. "Trading Standards prioritise dangerous henna in 2013." *Newham Recorder*. January 11, 2013.

<http://www.newhamrecorder.co.uk/news/court->

[crime/trading_standards_prioritise_dangerous_henna_in_2013_1_1789524](http://www.newhamrecorder.co.uk/news/court-crime/trading_standards_prioritise_dangerous_henna_in_2013_1_1789524) (accessed October 5, 2013)

Dangerous cosmetics - including henna ink that can scar for life - is a New Year target for council officers.

Newham's Trading Standards team say they are redoubling their efforts in Green Street, Upton Park, following the seizure of 6,700 items from one shop alone in July.

Black henna is being targeted in particular as it contains hazardous levels of benzene and lead.

Officers believe the decorative ink - popular for weddings and religious celebrations in Indian and Pakistani communities - is being imported from abroad.

Cllr Unmesh Desai, executive member for Crime and Anti-Social Behaviour, said: "Parents and young people must be very vigilant for this henna.

"Newham is taking the lead in London by cracking down hard as we believe it is circulating across the capital.

"Anyone who comes across it should contact their local council's trading standards office immediately."

The ink has also been made a priority after 17-year-old Sallyha Din, from Cambridge, was scarred for life after buying the black henna in Newham last March.

To report dangerous cosmetics, call Consumer Direct on 01622 626520/ 01622 626523 and ask for Newham Trading Standards.

⁷⁹¹ Muir, H. "G2: Hideously Diverse Britain Black henna? Send for Eliot Ness." *The Guardian* (London) - Final Edition. August 3, 2011 Wednesday . Date Accessed: 2013/06/05. www.lexisnexis.com/hottopics/lnacademic.

It started with a 17-year-old from Cambridge. She had bought henna to decorate her skin. Millions of other girls do the same, especially when preparing for weddings or parties, or, more pertinently at this time of year, Ramadan and Eid. Not just any old henna, explains Kari Aslam, principal trading standards officer in Newham, east London.

This was black henna. "Henna is part of the Indian/Pakistani ritual," he says. "But black henna doesn't exist. Henna is the colour of, well, henna. They put a chemical in that turns it black." It's all the rage apparently. Dangerous too. "It has PPD in it," says Aslam.

"Burns the skin, can cause cancer." Got to get it off sale immediately.

So here we are in the sun-drenched high street, among the stores selling saris and glistening jewellery and colourful fruit and vegetables. It's a swoop: a team of officers, going from shop to shop, seizing imported purple and silver cones filled with the dangerous henna mixture. The Eliot Ness approach, it's called. And it's easy pickings. The craze spread fast; retailers stocked up to cash in. "We have seized 8,000 to 9,000 of them so far," he says, holding up a bag containing a sample. "I'm surprised it's that many. No ingredients marked, no country of origin. So close to Eid, this is a race against time."

Today's swoop is also time sensitive. Word travels fast, he says. "If stores hear we are doing this, they will remove the black henna from view. We had one tell us he didn't have any. We found them in the stockroom."

It requires vigilance to work an area such as this. More than 130 languages are spoken here. A lot of variety, a lot of demand for niche products that don't necessarily go through the checks required by law and the major retailers. Much of it will be fine, but then officers will find dangerous eyeliner, or skin lightening creams containing nasties such as the potentially carcinogenic hydroquinone.

Some retailers react well. Others don't. Aslam wears an anti-stab vest. So many scams, he says. Don't get him started on the counterfeiters. "We seized some counterfeit wine the other day. Jacob's Creek. The clue was that they misspelt Australian."

⁷⁹² "Slough council warns black henna could scar skin." *BBC News Berkshire*. August 7, 2013.

<http://www.bbc.co.uk/news/uk-england-berkshire-23600406> (accessed October 5, 2013)

A council has warned of a banned cosmetic which can cause skin scarring after it was apparently used at an Eid party.

Black henna is illegal within the EU as it contains paraphenylenediamine, which can cause lasting damage to the skin.

Brown henna is commonly applied to hands before Eid al-Fitr, a religious celebration marking the end of Ramadan.

Slough Borough Council trading standards said any black henna found in shops would be seized.

Brown henna, which is made from a plant, is safe to use.

Slough has a large Muslim population, and the borough's trading standards officers are concerned that people may be buying black henna bought in from outside the EU.

⁷⁹³ “Tyneside Trading Standards team seize dangerous 'black henna' products.” *Chronicle Live*. April 3, 2013.

<http://www.chroniclelive.co.uk/news/north-east-news/tyneside-trading-standards-team-seize-2508192> (accessed September 30, 2013)

Henna tattoo kits seized on Tyneside contained a toxic hair dye which could cause permanent scarring or organ damage

Henna tattoo kits seized on Tyneside contained a toxic hair dye which could cause permanent scarring or organ damage, tests have found.

Officers from trading standards believe more products on sale in Newcastle could contain a cheap black hair dye instead of genuine henna.

Para-Phenylenediamine Diamine (PPD), a chemical which can cause skin blisters and lesions that scar skin for life, has been found in some samples.

Traditional non-harmful henna is orange or red in colour while the “black henna” available on Tyneside contains the hair dye chemical.

Now city officials have staged a sting by visiting more than 30 businesses across Tyneside after fears were raised that some products could be harmful to health.

An analysis of some kits found they contained a cocktail of chemicals, which could leave life-long scars for those having temporary artworks etched on their skin.

PPD can also enter the bloodstream and can cause liver and kidney damage.

Today trading standards officials from Newcastle City Council released a report detailing how specialists analysed 13 samples.

And they urged users to stick with the traditional henna kits which are not harmful.

Following an analysis of one product, an expert from West Yorkshire Analytical Services wrote: “The ingredients list included rosha oil, nilgiri oil, water and henna. The sample was found to contain none of the above compounds which suggest that it contains neither of the oils declared.”

Referring to a product named Saniya Hair Henna, the specialist added: “The labelling did include an ingredients list... however in my opinion, the labelling is likely to mislead consumers into thinking that the dyeing action of the product is due to the henna ingredient alone.”

Although it contained PPD and should have carried a warning, it was not included in the labelling of this product, she added.

A team from Newcastle City Council confiscated more than a dozen kits from stores across Tyneside before sending them for tests.

Among those analysed was a product named Sanam Special Dulhan Henna that boasted of containing rosha and nilgiri oil.

However, when it was put under the microscope, specialists found it contained none of the ingredients listed on the packaging.

In a report for the authority, Newcastle City Council's Paul Leighton said: "Internet-based research demonstrates widespread acknowledgement that there is an issue with unsafe henna products.

"In particular, there are a large number of journal articles relating to people, especially children, who have had henna tattoos and artwork applied by street vendors when on holiday abroad, which have caused 'burns' on the area of skin where the henna has been applied.

"The typical cause of this reaction is because the artist has used a mixture of hair dye, which would be composed of the chemical PPD, and this creates a darker tattoo. Natural henna would leave an orange or brown tattoo."

Coun Linda Hobson, cabinet member for community safety and regulation, said: "The advice from our trading standards team is clear – use natural henna in its orange/red form and avoid darker shades of henna.

"It is also a good idea to carry out a patch test, to check for any reaction before applying any product to the hair or skin." She asked people to report dark hennas on sale in the city to trading standards who will investigate further.

Toxin alert

Henna does not naturally dye skin black, but black henna has had substances added to it to make it turn black.

Para-Phenylenediamine Diamine (PPD) is frequently added to henna to stain it black. The chemical colours the skin within two hours and lasts at least two weeks.

PPD is extremely dangerous because it is a toxin, capable of entering the bloodstream. Once in the system, PPD toxins collect in the liver, causing liver and kidney damage, or asthma.

Henna only stains the outermost skin cells.

⁷⁹⁴ Jeremy Rowntree. Comment, "Welcome" posted to *The Henna Page Discussion Forum* April 11, 1997

<http://web.archive.org/web/19990225114839/http://www.bioch.ox.ac.uk/~jr/henna/discuss/messages/2.html>

(accessed October 9, 2013)

Welcome to the Henna Page Discussion Forum

I hope this forum will help to bring together those who know about henna, and those who want to know.

Enjoy!

⁷⁹⁵ "The Henna Page Discussion Forum," The Henna Page,

<http://web.archive.org/web/19980127125452/http://www.bioch.ox.ac.uk/~jr/henna/discuss/discuss.html> (accessed October 12, 2013)

⁷⁹⁶ Mikara Pettman. Comment, "How Exciting" posted to *The Henna Page Discussion Forum*, April 17, 2013.

<http://web.archive.org/web/19991011191414/http://www.bioch.ox.ac.uk/~jr/henna/discuss/messages/9.html>
(accessed October 9, 2013)

this is thee most fabulous page dedicated to henna and the art of mehndi i have found yet!!
i'm sure that there is a ton of people "jumping on the bandwagon" and trying this stuff out. but, you know what, i think it is fab!!
i am all pumped to go out & purchase some pure henna and/or hopefully "borrow" my sisters she brought back from india..i would just like to thank and congratualte the founder of this page for bringing this new joy/hobby closer to my fingertips!!
cheers!

Follow Ups:

Re: How exciting! Lia 22:45:47 4/11/98 (0)
Re: How exciting! Huma Iqbal 18:12:21 8/08/97 (0)
Does anyone know where I can order some henna to do the mehndi with??? Nikki 03:50:08 8/08/97 (52)
Re: Does anyone know where I can order some henna to do the mehndi with??? AMY 22:35:43
8/29/98 (2)
Re: Does anyone know where I can order some henna to do the mehndi with??? lora 03:17:16
10/08/98 (0)
Re: Does anyone know where I can order some henna to do the mehndi with??? lora usry 03:16:36
10/08/98 (0)
Re: Does anyone know where I can order some henna to do the mehndi with??? Navin Sanger
11:21:14 6/19/98 (0)
Re: Does anyone know where I can order some henna to do the mehndi with??? Lee 22:34:00 6/14/98
(1)
Re: Does anyone know where I can order some henna to do the mehndi with??? Dawn Simmons
02:00:46 6/10/99 (0)
RE where to buy henna from.. Khadija 03:19:01 12/11/97 (39)
Re: I NEDD HENNA STENCILS!!! LISA PHILLIPS 05:07:14 10/17/98 (2)
Re: I NEDD HENNA STENCILS!!! LISA PHILLIPS 05:09:04 10/17/98 (1)
Re: I NEDD HENNA STENCILS!!! KIMBEAUX 20:45:19 10/28/98 (0)
where can I contact you to purchase Sudanese henna and oils? Donna Hudson 19:18:25 3/17/98 (3)
Re: where can I contact you to purchase Sudanese henna and oils? DAVID A. RIVERA 17:45:18
1/18/99 (0)
Re: where can I contact you to purchase Sudanese henna and oils? ADRIENNE ST. CLAIR
08:27:30 4/19/98 (0)
Re: where can I contact you to purchase Sudanese henna and oils? Lily 17:02:36 4/14/98 (0)
Re: RE where to buy henna from.. donna hudson 19:13:27 3/17/98 (22)
Re: RE where to buy henna from.. Colette Pogose 18:24:02 2/07/99 (0)
Need to buy in bulk please k. miguel adams 20:50:10 2/05/99 (0)
Re: RE where to buy henna from.. Vanessa Rodriguez 19:25:28 1/20/99 (1)
Re: RE where to buy henna from.. ky 16:34:05 8/25/99 (0)
Re: RE where to buy henna from.. r.lewis 02:37:53 1/20/99 (0)
Re: RE where to buy henna from.. Mary Jane 20:29:33 1/18/99 (0)
Re: RE where to buy henna from.. KENNY FOONG 13:35:09 6/18/98 (0)

Re: RE where to buy henna from.. Joe Spinelli 17:54:12 4/13/98 (1)
 where to buy henna from..hair or body paint (cones) Susan 01:42:42 1/27/99 (0)
 Re: RE where to buy henna from.. carole n. 18:51:55 4/08/98 (12)
 Re: RE where to buy henna from.. linda leacock 22:28:02 4/26/99 (0)
 Re: RE where to buy henna from.. carole n. 18:53:34 4/08/98 (10)
 Re: RE where to buy henna from.. simon 10:29:01 2/05/99 (0)
 Re: RE where to buy henna from.. Kayla Hursman 20:46:33 6/18/98 (2)
 Re: RE where to buy henna from.. Calvin 09:32:59 4/13/99 (0)
 Re: RE where to buy henna from.. stacy 22:09:58 2/06/99 (0)
 Re: RE where to buy henna from.. Farid Bairamov 14:21:53 4/09/98 (5)
 Re: RE where to buy henna from.. Wade 22:56:31 6/18/98 (4)
 Re: RE where to buy henna from.. wade 22:57:24 6/18/98 (3)
 Re: RE where to buy henna from.. Kitty 02:57:10 10/22/98 (2)
 Re: RE where to buy henna from.. Christine 08:19:07 1/31/99 (1)
 Re: RE where to buy henna from.. Robin Porter 15:59:03 2/18/99 (0)
 Re: RE where to buy henna from.. donna hudson 19:10:08 3/17/98 (8)
 Re: RE where to buy henna from.. t.burger 13:51:39 8/04/99 (0)
 Re: RE where to buy henna from.. t.burger 13:50:24 8/04/99 (0)
 Re: RE where to buy henna from.. stacy 21:53:27 2/06/99 (0)
 Re: IS THERE A PLACE IN NYC FOR HENNA TATTOOING Aurelia Ruiz 20:07:53 10/16/98
 (2)
 Re: IS THERE A PLACE IN NYC FOR HENNA TATTOOING Nina 18:01:40 1/24/99 (1)
 Re: IS THERE A PLACE IN NYC FOR HENNA TATTOOING jeana matcham 03:25:26
 3/06/99 (0)
 Re: RE where to buy henna from.. Scott Roche' 23:45:17 4/06/98 (1)
 Re: RE where to buy henna from.. Gary Steuer 18:32:40 1/30/99 (0)
 Re: Does anyone know where I can order some henna to do the mehndi with??? Mary 03:55:29
 9/29/97 (1)
 Re: Does anyone know where I can order some henna to do the mehndi with??? Eco-Henna
 16:09:08 11/04/97 (0)
 Re: Does anyone know where I can order some henna to do the mehndi with??? Mary 03:53:54
 9/29/97 (3)
 we are exporters of MEHNDI / HENNA NAVEED A. KHAWAJA 10:12:24 6/04/98 (0)
 Re: Does anyone know where I can order some henna to do the mehndi with??? Vickie 03:32:17
 3/02/98 (1)
 Re: Does anyone know where I can order some henna to do the mehndi with??? saulat khan
 17:03:46 12/31/98 (0)
 Re: How exciting! Jason Jordahl 00:05:28 6/30/97 (3)
 Re: How exciting! Jackie Steward 02:48:34 10/20/97 (0)
 For All You Mehndi Enthusiasts! :)Info! Mehndi Consultant 03:27:42 7/20/97 (0)
 Re: How exciting! jason jordahl 00:07:48 6/30/97 (0)
 Re: How exciting! Cyndi 19:08:16 6/22/97 (0)
 Re: How exciting! Shiv2 05:38:17 5/19/97 (3)
 Re: How exciting! Sanjay 21:25:38 7/24/97 (2)
 Re: How exciting! DEBORAH 19:19:34 8/07/97 (1)
 Re: How exciting! Monica 14:39:00 12/

⁷⁹⁷ JAY. Comment, "CAN YOU BUY HENNA IN BLACK" posted to *The Henna Page Discussion Forum*, April 11, 2013. <http://web.archive.org/web/19980127125452/http://www.bioch.ox.ac.uk/~jr/henna/discuss/discuss.html> (accessed October 9, 2013)

⁷⁹⁸ Michele Coscia, 2013, Competition and Success in the Meme Pool: a Case Study on Quickmeme.com

International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org). All rights reserved.

⁷⁹⁹ Umm Fauziyah. Comment, "Re: to How to get black henna..." posted to *The Henna Page Discussion Forum*. July 7, 1997.

<http://web.archive.org/web/20010520022733/http://www.hennapage.com/henna/discuss/messages/853.html>

(accessed October 5, 2013)

Posted by umm fauziyah on December 05, 1997 at 04:55:48:

In Reply to: Re: How to get black henna... posted by jennifer on July 07, 1997 at 18:05:36:

The Sudanese are very fair skinned -- and very very dark. The women use katm which is black. It is not henna although it is used the same way. Ask someone in your area about it, particularly a Sudanese, Ethiopian or Somali lady.

A very dear friend has referred to the popularity in henna as another form of "cultural plagiarism". When something that the non-white, non-Anglo, non-Christian, non-western society does anything for generations, it has been declared as backward, unattractive, old-fashioned, strange, etc., etc. However, when appreciated by a popular figure (like Demi Moore) out come the "specialists" and "authorities" to tell us what our mother's mother told us when we were babies.

E-mail me if you like. I believe you can catch my drift, to coin a phrase that was once only used in the black community and now is used in the corporate law offices and courts where I work.

Masha Allah.

Thanks for letting me vent.

Umm Fauziyah.

⁸⁰⁰ Becca. Comment, "Allergic reaction to Henna body art" posted to *The Henna Page Discussion Forum*, December 04, 1997.

<http://web.archive.org/web/20010504080239/http://www.hennapage.com/henna/discuss/messages/844.html>

(accessed October 5, 2013)

Allergic reaction to Henna body art
Posted by Becca on December 04, 1997 at 08:14:07:

Hi ! My problem is that my 10 yr.old son got a Henna tatto and when it started to peel off his arm got sort of swollen and really red. Anyway now 4 wks later it's still there; red, swollen, and ithurts a little bit. What

could I do ? and What could my son be allergic to from the Henna? What should I use on his arm? HELP ME PLEASE!!!!

⁸⁰¹ Lynn Santure. Comment, Reply to: How to get black henna..." posted to *The Henna Page Discussion Forum*, July 10, 1997.

<http://web.archive.org/web/20010729071727/http://www.hennapage.com/henna/discuss/messages/242.html>

(accessed July 13, 2013)

Posted by Lynn Santure on July 10, 1997 at 17:00:48:

In Reply to: How to get black henna... posted by Karen on July 07, 1997 at 17:13:04:

In Tunisia they use a mixture of (I think) kohl, some kind of nut, and cloves. It makes a thin type or "tar-like" paste and sits on the skin and is certainly black. My skin broke out twice after having it done to my hands twice and it does not spread as easy as henna paste does, so most of the designs are limited to dot patterns. But they are beautiful all the same.

⁸⁰² Vicky. Comment, "Black Henna", posted to *The Henna Page Discussion Forum*, July 27, 1997

<http://web.archive.org/web/20010309004733/http://www.hennapage.com/henna/discuss/messages/332.html>

accessed July 13, 2013

Black Henna

Posted by Vicky on July 27, 1997 at 02:26:49:

I have read a number of requests for black henna on this site and I just want to add that I KNOW for a fact that you can get a deep black color. When I lived in Egypt I had one foot and ankle done by a Sudanese woman. I left the paste on for about an hour then picked it off. I didn't have to re-wet the paste at all. The design stayed DARK black for over a month. I am very pale so that may have something to do with it. Unfortunately I don't know what the paste was made of. If anyone knows of this black paste (I desperately want some) or if anyone has any Sudanese friends could you please find out what it is made of. Thank you.

⁸⁰³ Renee. Comment," Re: Does Anyone have experiance with black henna?" *The Henna Page Discussion Forum*, May 22, 1998,

<http://web.archive.org/web/20010528174326/http://www.hennapage.com/henna/discuss/messages/2373.html>

(accessed July 13, 2013)

Re: Does Anyone have experiance with black henna?

Posted by Renee on at 08:38:50:

In Reply to: Re: Does Anyone have experiance with black henna? posted by Shiv on May 23, 1997 at 03:54:08:

Yes, i do have experiance with black henna, and succesfully, as well. Henna is black on the skin when manufactured here, in the USA, by a comapny called Elizabeth's Rose, out of California. About \$40 USDollars for a kit. I have been using it for about 8 months, profesionally in Chicago, and I will use no other!

⁸⁰⁴ Vicky. Comment, "Black Henna" posted to *The Henna Page Discussion Forum* July 27, 1997

<http://web.archive.org/web/20010309004733/http://www.hennapage.com/henna/discuss/messages/332.html>

(accessed October 5, 2013)

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⁸⁰⁵ Dolly. Comment, "I might have a really good idea!" posted to *the Henna Page Discussion Forum*, November 30, 1997

<http://web.archive.org/web/20010222173058/http://www.hennapage.com/henna/discuss/messages/821.html>

(accessed October 5, 2013)

I might have a really good idea!
Posted by dolly on November 30, 1997 at 03:39:49:

Hey! Has anyone thought of using a commercial hair dye (like a semi-permanent drug store product) to get a dark, long-lasting stain? I haven't, I'm just wondering if it would work. Like you could buy any colour you wanted and paint it on with a paint brush. Is this too good an idea to work? Am I being very naive? Is there some reason it's a bad idea? Please email me if you've tried this!

⁸⁰⁶ Sashi. Comment, "Re: NO to black henna" *The Henna Page Discussion Forum*, February 19, 1998

<http://web.archive.org/web/20010217061550/http://www.hennapage.com/henna/discuss/messages/1192.html>

(accessed July 13, 2013)

Re: NO to black henna
Posted by sashi on February 20, 1998 at 03:09:06:

In Reply to: Re: NO to black henna posted by Edith Fehrenbacher on February 19, 1998 at 23:34:22:

: It is one thing for established Mehendi artists to know that the
: "black" henna is probably cut with hair dye.

: It is another for packaging and companies to imply that safe
: colored henna exists.

: I know of people who are highly allergic to black hair dye. It is
: criminal for teens and others to buy a kit with an unsafe product
: and get a bad reaction.

: We must speak out against the charlatans!

...right on! and here's why:

..."black" henna has an additive in it to make it produce a black colour. it's called "Para-Phenylenediamide" which is used in dermatological patch testing to test for reactions to rubber substances and is made of literally black rubber like what tires are made of. i purchased a package of imported "black henna" (from India) just to check it out and the back says to be VERY careful and to always do a patch test for this particular product. i found out about the above mentioned substance by doing a web search on it and finally landed at an allergy site which had the "scoop". :/

...personally, imho, i think that a "black" henna would look awful! i love the soft, warm tones of *real* henna and feel that anyone who wants "black" is really a "tattoo wannabe" at heart. my advice to them: either go all the way and get a *real* tattoo or do dark brown mehndi and leave it at that.

...sashi. :)
0)

⁸⁰⁷ Stephanie. Comment, "Chemical black henna" posted to *The Henna Page Discussion Forum*, July 14, 1998.

<http://web.archive.org/web/20010309110919/http://www.hennapage.com/henna/discuss/messages/3220.html>

(accessed July 13, 2013)

Posted by Stephanie on July 14, 1998 at 04:55:17:

In Reply to: Chemical black henna posted by Peter Mathews on July 07, 1998 at 22:09:17:

Just as Peter, I was recently at Venice Beach in California. My husband and I each got "Henna Tattoos". It was a black ink applied with a small squeeze bottle capped with a nozzle - reminded me of something used to decorate a cake with icing. My "tattoo" is on my hand. The man applied the design and told me to let it dry then wash it or peel it off. It took about an hour to dry. It is now a week later and the design has faded tremendously. My husband's design is on the back of his leg and is still pretty dark. Obviously, you wash your hands more often than your legs, right?

Anyway, my question is: Is this really Henna? If not, what was it, just ink? It was black, not red or brown. Neither of us had any reactions to the dye. How long does Henna art last? How is it applied?

After reading through the info here, it sounds like these mixtures can be time consuming and complicated. I would like to have more information on the similarities and the differences between the black ink design I had applied and Henna art.

We live in Ohio and I don't think this type of body art is available here. I would be interested in playing with some designs, even if it is strictly for my own pleasure.

Thank you in advance for your help.

⁸⁰⁸ Rick Bourassa. Comment, "desperate help.....needed" posted to *The Henna Page Discussion Forum*, April 19,

1998. <http://web.archive.org/web/20010110211200/http://www.hennapage.com/henna/discuss/messages/1976.html>

(accessed October 5, 2013)

⁸⁰⁹ Peter Matthew. Comment, "Chemical black henna" posted to *The Henna Page Discussion Forum*, July 7, 1998.

<http://web.archive.org/web/20010309032158/http://www.hennapage.com/henna/discuss/messages/3042.html>

(accessed July 13, 2013)

I was wondering how to turn the red henna powder (green), into a black paste.... it turns red yet comes out really light.... or not at all.. I have tried coffee... and both tea yet no avail. I recently saw a type of henna in Venice Ca. that was a real dark black.. that they said was red orig. So how or what am I doing wrong....any help is greatly appreciated....thank you in advance.

I would like very much if someone could email me where I can find this product. I had this process done to me in Venice without any reaction And would like to have thid product available to my clients. I find like any chemical I work with the best bet is to do a small test sight on someone before doing any large design. I have a great respect for all the henna arts but there is a market for the black henna and I would like to try it. Also we would like to know of a brown henna that really works we have tried three different brands all with very unsatisfactory results.

⁸¹⁰ Hanna in Sweden, comment “Want to have something black!” posting to *The Henna Page Discussion Forum*, June 29, 1998. <http://www.hennapage.com/henna/discuss/messages/3578.html> (accessed October 5, 2013)

⁸¹¹ Becky M. Comment on “Re: Want to have something black!” posting on *The Henna Page Discussion Forum* August 01, 1998

<http://web.archive.org/web/20010309140903/http://www.hennapage.com/henna/discuss/messages/3626.html>

(accessed October 5, 2013)

⁸¹² Becky M. Comment “Let's talk more about black henna, please!!, Try Amunez” posted to *The Henna Page Discussion Forum* August 01, 1998

<http://web.archive.org/web/20010309003224/http://www.hennapage.com/henna/discuss/messages/3627.html>

(accessed October 5, 2013)

In Reply to: Let's talk more about black henna, please!! posted by carVID on at 06:52:02:

Ok, I know I'm going to start sounding like a broken record, but ifvpeople REALLY want black, you CAN give it to them. Scroll down and see if you can find Ali Watkin's post about Amunez body paint.

It is not henna, but lasts as long as henna. It comes out PURE BLACK.
Skin sensitivity is about the same for Amunez as it is for pure red henna. It even goes on just like henna. BUT - care is very easy. Keep the paste on for 90 min, then wash it off under running water. (This goes over big with people who want to go swimming after getting their design done)

The down side is - it is expensive! 50g of powder costs \$200 Australian. A \$30 kit gives you enough to do about 15-20 small designs. The kits aren't put together very well, and the kit I got was damaged. And you have to order from Australia.

But if you HAVE to have black, now you CAN.

⁸¹³ Mark, comment on "Chemical black henna," posted to *The Henna Page Discussion Forum*, August 31, 1998.

<http://web.archive.org/web/20010309103306/http://www.hennapage.com/henna/discuss/messages/4274.html>

(accessed October 5, 2013)

Re: Chemical black henna

Posted by MARK on August 31, 1998 at 16:28:25:

In Reply to: Re: Chemical black henna posted by Stephanie on July 14, 1998 at 04:55:17:

what they are using is bad very bad for the skin it is a man made dye. I know this because I do henna myself at Venice Beach they know most people will never be back to Venice

⁸¹⁴ Marsha. Comment, "It is that black chinese hair dye..." *The Henna Page Discussion Forum*, April 27, 1998

<http://web.archive.org/web/20010221133617/http://www.hennapage.com/henna/discuss/messages/2053.html>

(accessed July 13, 2013).

It is that black chinese hair dye...

Posted by Marsha on April 27, 1998 at 20:27:17:

In Reply to: Re: Madonna and Henna?? - Black??? posted by Cietta on April 27, 1998 at 18:47:34:

I forget the name of that stuff, the boxes with the oriental adies on them. You can find them at most beauty salons.

Any way that is what it is. I know someone who has an in at Ziba, they are the ones that painted her for the video.

Spread the word.

I think that was rather irresponsible for her to use black in her video. Now EVERYONE wants it!

Marsha

⁸¹⁵ Ho, S. G. Y.; White, I. R.; Rycroft, R. J. G.; McFadden, J. P. 2004. "Allergic contact dermatitis from para-phenylenediamine in Bigen® powder hair dye" *Contact Dermatitis*, Vol. 51 Issue 2, p93, 2p; DOI: 10.1111/j.0105-1873.2004.0396f.x; (AN 14418458)

PPD is a potent allergen mainly encountered in hair dyes. Allergic skin reactions to temporary black henna tattoos, which often contain high concentrations of PPD, are increasingly reported. Under European Union (EU) directives, PPD is allowed in hair dyes at a maximum concentration of 6% (i.e. 3% as used by the consumer when mixed with peroxide). Bigen1 powder hair dye is manufactured by a Japanese company (Hoyu) and distributed in the UK and Southeast Asia. Using high

performance liquid chromatography, Brancaccio and colleagues demonstrated that PPD was present in Bigen #59 Oriental black hair colour at a concentration of 12.3%. Such concentrations would be considerably higher than those legally permitted in the EU and would increase the risk of sensitization to PPD were the substance not sufficiently diluted.

⁸¹⁶ Marsha. Comment, "Re: bad," posted to *The Henna Page Discussion Forum*, April 29, 1989.

<http://web.archive.org/web/20010221133658/http://www.hennapage.com/henna/discuss/messages/2084.html>

(accessed October 6, 2013)

Well, hairdressers (should) do their best to keep hair dye off of your scalp. (they are supposed to do patch tests too!)

As for ppd, Look here on DuPonts site <http://www.dupont.com/intermediates/product/msds/ppd.html> all the info you need is here

There is also a company here in Los Angeles selling black henna, my friend purchased some, it has a shelf life of 6 hours, smells bad, and fades to purple. look here, <http://www.greenheart.com/blackhenna/> there is a java thing on this site so it is very slow loading

I got the ingredients on this stuff, Henna powder, Color(what is that supposed to mean?), Foliculant(what is this stuff?), Fragrance.

you only need to leave it on 2 hours.

The booklet says
Warning,
This product contains ingredients which may cause skin
irritation....snip...

Avoid getting in eyes as to do so may cause blindness....snip...

The manufacturer is not liable for any damage to person or property resulting from the use or misuse of this product

it has a shelf life of 6 hours, fades to purple.... and you should do a patch test on a person who has not had a black henna tattoo before

Common sense would tell me that these warnings are way too similar to that of hair dye which has ppd in it.

These chemicals can seep through the skin and become toxic, the liver tries to get them out of your system, and can cause varying damage depending on the amount exposed to. It can be carcinogenic too, you have heard about the possible relation hair dye has to leukemia?

I hope this helps you, it is really very sad that people are getting taken advantage of like this.

Marsha

⁸¹⁷ Jeremy Rowntree. Comment, "Black Henna Warning Page'" *The Henna page Discussion Forum*, April 29, 1998.

<http://web.archive.org/web/20010221133541/http://www.hennapage.com/henna/discuss/messages/2086.html>

(accessed October 6, 2013)

Black Henna Warning Page

Posted by Jeremy Rowntree - Site Owner on April 29, 1998 at 18:25:42:

Many of you will have noticed various discussions regarding the use of and potential dangers of black henna. So far, little hard evidence has been presented, but one thread yielded a pointer to a chemical (PPD) which link below for the Material Safety Data Sheet (courtesy of DuPont).

I am aiming to collate enough definite information (rather than rumours, etc) to prepare a warning page about black henna. So, if you have such information, please mail me (jr@bioch.ox.ac.uk). But please don't mail me unless you have some actual evidence, such as a scan of an ingredients list or photos of skin reactions, etc. I already have plenty of anecdotal stuff with which to populate the warning page.

Thanks, Jeremy

⁸¹⁸ Cowell, Thomas. September 8, 1999. "Known black henna problems" The Henna Page. Captured by the Internet Archive Wayback Machine, April 9, 2000.

<http://web.archive.org/web/20000409003243/http://www.hennapage.com/henna/warnings.html> (accessed October 6, 2013)

⁸¹⁹ Jeremy Rowntree. "Warnings – Safety Issues. Black Henna Warnings." The Henna Page. Captured April 2000 by Internet Archive Wayback Machine.

<http://web.archive.org/web/20011202001309/http://www.hennapage.com/henna/warnings.html> (accessed October 5, 2013)

⁸²⁰ Renee. Comment, "Does Anyone have experiance with black henna?" comment posted to *The Henna Page Discussion Forum*, May 22, 1998.

<http://web.archive.org/web/20010528174326/http://www.hennapage.com/henna/discuss/messages/2373.html>
(accessed October 5, 2013)

⁸²¹ JEAN-MARC, Comment "SAFE BLACK HENNA" posting to *The Henna Page Discussion Forum* June 27, 1998 <http://web.archive.org/web/20010308230701/http://www.hennapage.com/henna/discuss/messages/2807.html>
(accessed October 5, 2013)

SAFE BLACK HENNA

YES WE ARE DEALER IN EUROPE.

YES WE DO BLACK HENNA TATTOOS IN OUR SHOPS

50 PERSONS PER DAYS !

WE SELL MANY KITS IN THE WORLD

NEVER 1 PERSON TELL US PROBLEMS SKIN

DO YOU THINKS WE ARE CRAZY ?

IF BLACK HENNA IS NOT SAFE WE NEVER DO THAT

MANY PRODUCT IN COSMETIC CONTAIN PPD.

ALSO YOU CAN SEE ON THIS LINK ABOUT PPD

BEST REGARDS FOR ALL

JEAN-MARC

⁸²² Apparences Beauty Salon. Comment, "Re: SAFE BLACK HENNA" posted to *The Henna Page Discussion Forum*, August 8, 1998

<http://web.archive.org/web/20010308232742/http://www.hennapage.com/henna/discuss/messages/3810.html>

(accessed October 5, 2013)

⁸²³ Mandy Lane. Comment, "No Response from the Owner!!!" posted to *The Henna Page Discussion Forum*, June 02, 1998 <http://www.hennapage.com/henna/discuss/messages/2499.html> (accessed October 5, 2013)

Well to begin, this was the first time for Black henna with me. and this is what happened!! ... After removing it, I thought it looked a little swollen, but no big deal, RIGHT?

After about 5 hours, the are became inflamed and swollen. Everywhere the So Called BLACK henna was, now is a red swollen area, and full of small watery blisters that look like Poison Ivy...and it itches and burns like poison ivy. Now, I thought..Okay..I did something wrong... Yeah right...The brown has NEVER EVER done this to me before...but I had to be like a Madonna, and try this stuff....

Well, today, I sit at work, hacking around on my keyboard, and this thing on my leg is itching and swollen, full of blisters. I have gauze on it, with some Hydrocortizone sauve on it....talking about miserable!!!

I plan on doing one more small area...a test area on myself to be sure its the Henna....

Has anyone else had this problem?? Please email me, or write on this forum... Everyone needs to know this, to save everyone else this pain. Oh yeah..One more little interesting factor....The ingredients on the box said...100% pure black henna....Uh huh...YEAH RIGHT!!! There is no such thing, and there wasn't any other ingredients listed....but I did get a nice black color..like a Charcoal grey....however, I went swimming yesterday, hoping the chlorine would dry the blisters, and it disappeared almost instantly!!!!

What a farce!!!! BLACK HENNA...YEAH RIGHT!!!

One dissatisfied customer!!

In Reply to: BLACK Henna---What happened to me!!!! posted by on June 01, 1998 at 16:58:42:

Well, I gave the company sufficient enough time to respond to me after what happened to my leg!!! Nothing!! No one has written to say they are sorry, nor to ask me any questions...nothing!!!

SOOOO, here goes!!!

The name of the website is: WWW.MEHNDIBODYART.COM, the package I bought was the Black Henna for \$7.00. The ingredients said 100% Henna, and I have found out what it really contained. It has sooo many chemicals in it, there are too many to list, and not only did it stink to high heaven, but it gave me 2nd degree chemical burns!!!

Now, I said I wasn't going as far as posting the business, but hey, they haven't even acknowledged my pain or questions. All I asked of them was to email me back, and tell me what the REAL ingredients were, but nothing....

So, HERE YOU GO WORLD...if you buy the colored Henna's off of these people, then you will end up just like me.

MY CASE IS VERY CLASSIC SO I HAVE BEEN TOLD BY SOOOO MANY IN THE PAST TWO DAYS!!!!

⁸²⁴ Ibid

⁸²⁵ BALI travel FORUM News & Views from the "Ultimate Island" <http://www.balitravelforum.com/> (accessed October 16, 2013)

⁸²⁶ Plan Your Perfect Trip. <http://www.tripadvisor.com> (accessed October 16, 2013)

⁸²⁷ Somali Net. Largest Online Somali Community.

<http://www.somalinet.com/forums/viewtopic.php?f=18&t=177727> (accessed October 16, 2013)

⁸²⁸ [ALERT] DO NOT USE Mehndi - Muslim Women in South India Falling Ill En-Masse !! *Sunni Forum*.

<http://www.sunniforum.com/forum/showthread.php?92441-ALERT-DO-NOT-USE-Mehndi-Muslim-Women-in-South-India-Falling-III-En-Masse-!!> (accessed October 16, 2013)

⁸²⁹ Welcome to MeraForum No. 1 Pakistani Forum Community.

<http://www.meraforum.com/forumdisplay.php?f=71> (accessed October 16, 2013)

⁸³⁰ Jessica Stafford. Comment, "BLACK Henna---What happened to me!!!!" posted to *The Henna Page Discussion Forum* May 13, 1999

<http://web.archive.org/web/20010211024640/http://www.hennapage.com/henna/discuss/messages/8653.html>

(accessed October 5, 2013)

Well, I was visiting Venice Beach and decided to get myself a henna tattoo. My sister had gotten one from this little shop there about 6 months ago, so we went back to the same place. The woman assured me she was using the best stuff out there, and it would last 2-3 weeks. I got a really cool lizard put around my ankle. Well, beginning the next day it got swollen and red and itchy. That continued for about two weeks, then it began to peel off, big thick layers of skin. This took another two weeks. Now I have a purple/pink raised scar of a lizard around my ankle. It has been most frustrating. My sister also got one the same time I did, and she had no reaction at all, hers looked very cool. My husband says if it is still there in a year we will put color on it and make it a real tattoo. I too definitely got

way more than I had bargained for on this deal.

⁸³¹ Amy, comment "Re: BLACK Henna---What happened to me!!!!" posted to *The Henna Page Discussion Forum*, September 15, 1999

<http://web.archive.org/web/20010211024741/http://www.hennapage.com/henna/discuss/messages/11234.html>

(accessed October 5, 2013)

I had almost the same exact experience. We went to Key West and everybody had these cool tattoos. So the last night we were there I had a cool design put on my stomach. It was fine for like 2+ weeks until it had almost completely disappeared. Then suddenly I had an itch, then the red puffiness appeared and it was sooo itchy I about died to keep from itching it. I thought I was allergic and went to the dr.. The dr. had never seen anything like it so we were treating it like an allergy. Until I went to this website because it wasn't going away. Now I realize I'm treating a chemical burn and have an appt. w/ the dermatologist today. I hope it goes away, otherwise I'll feel pretty stupid with this thing the rest of my life. My friend also had one done at the same time with no effects. Odd, isn't it? I hope this thing goes away. I'm glad to have found this website, otherwise I'd be walking around wondering what the hell was wrong with me. I am pissed about this. Keep us updated on your condition.

⁸³² Mary Anne Dolbeare, comment on "BLACK Henna---What happened to me!!!!" posted to *The Henna Page Discussion Forum*, July 15, 1999

<http://web.archive.org/web/20010211023539/http://www.hennapage.com/henna/discuss/messages/9875.html>

(accessed October 5, 2013)

I'm so glad I stumbled onto this site. This happened to me, too, at a festival in Washington, DC. Just like poison ivy---thanks for the tips and tell everyone....

⁸³³ Eve. Comment, "Re: Black Henna Tattoo Damage (outraged)" posted to *The Henna Page Discussion Forum* September 8, 1999

<http://web.archive.org/web/20010119002400/http://www.hennapage.com/henna/discuss/messages/11106.html>

(accessed October 5, 2013)

I'm completely outraged at the so called "Mehndi Artists" that use "black" Henna on customers. In my eyes they are missing the point of mehndi and it's healthy usefulness. I feel that this could be very damaging to

the Artists that take their work very serious and are not ot there doing it just to make a quick buck. Does it take lawsuits for it to stop?

People (Mehndi Atists using "black" Henna!), get a clue. Mehndi is not meant to be black like a tattoo. You want it to be like a tattoo, then be a tattoo artist instead of promising goods that can't be delivered without harm.

I'M OUTRAGED!

⁸³⁴ Sonia. Comment, Re: Black Henna Tattoo Damage posted to The Henna Page Discussion Forum, September 08, 1999

I certainly hope that you are feeling better soon. I worked down at the beach this year doing natural henna and everyone wanted black henna. The guy doing black henna had long lines. I don't know if any of the verbal or written info I gave them sank through, but I would really like to see the picture and make a copy to show people.

Again, I hope your skin clears up very soon.

Take care, Sonia

<http://web.archive.org/web/20010119004700/http://www.hennapage.com/henna/discuss/messages/11134.html>

(accessed October 5, 2013)

⁸³⁵ Search for the Truth. Comment, "BLACK Henna---What happened to me!!!!" posted to *The Henna Page Discussion Forum* August 31, 1999

<http://web.archive.org/web/20010211024304/http://www.hennapage.com/henna/discuss/messages/10902.html>

(accessed October 5, 2013)

It is so funny how Western America tries to take everything and call it their own. Many people once thought I was crazy when they saw designs intricately placed on my hands and feet. Shortly after, everyone wanted to have their bodies adorned with henna without even knowing what it was for. This practice has been around for centuries and the Western world is now accepting henna. Suddenly everyone thinks its "cool" to have what they call temporary "henna tatoos". We all know that tatoos are permanent. You need to STOP abusing the cultures and practices of people and calling it your own. Find the beauty in your own culture and celebrate in your own manner. Next time you might not get away with only a few burns.

⁸³⁶ Thomas Cowell. Comment, "Black Henna Tattoo Damage" posted to The Henna Page Discussion Forum September 8, 1999.

<http://web.archive.org/web/20000525015214/http://www.hennapage.com/henna/discuss/messages/11096.html>

(accessed October 6, 2013)

⁸³⁷ Jeremy Rowntree. "Known black henna problems" Hennapage.com, captured by Internet Achive Wayback Machine April 9, 2000.

<http://web.archive.org/web/20000409003243/http://www.hennapage.com/henna/warnings.html> (accessed October 6, 2013)

⁸³⁸ Cartwright-Jones, C., "Warnings: PPD Black Henna. Para-phenylenediamine "Black Henna" can harm you." The Henna Page. <http://www.hennapage.com/henna/ppd/index.htm> (accessed October 6, 2013)

⁸³⁹ Visitors to www.hennapage.com/henna/ppd/index.html ClustrMaps. October 6, 2013. <http://www3.clustrmaps.com/counter/maps.php?url=http://www.hennapage.com/henna/ppd/index.html> (accessed October 6, 2013)

⁸⁴⁰ Skyy. Comment, "Black heena is NOT harmful" posted to The Henna Page Discussion Forum July 25, 2000. <http://web.archive.org/web/20001102085030/http://www.hennapage.com/henna/discuss/messages/20345.html> (accessed October 5, 2013)

I have done 1000's of black hennas on Santa Monica pier without any reactions. You have been spreading false information. My black henna DOES have PPD. The burns you allege that come from black henna must by some other ingredient that people like you experiment with. Stop posting inaccurate information. You are ruining my business. And as a single mother with two kids to feed you are actually taking food from my babies' mouths. Mind your own business and stop slandering my business.

⁸⁴¹ Andrea Curtis. Comment, "Black heena is NOT harmful" posted to the Henna Page Discussion Forum September 8, 2000. <http://web.archive.org/web/20010211020036/http://www.hennapage.com/henna/discuss/messages/22565.html> (accessed October 5, 2013)

In my two years of experience doing black henna across Canada, I have not seen more than three reactions from the dye. These reactions occur most commonly to men, and I have also found evidence that the reactions may be triggered by consumption of alcohol. Reactions may be treated with an antihistamine perscribed by a doctor. ... I mix my own black henna which is derived from a rock out of certain riverbeds in Africa. The substance created from this process IS all natural, but may trigger reactions in CERTAIN people. Unfortunately, I did not find your description of black henna adequate.

⁸⁴² "PPD Reaction," Encyclopedia, BMEzine.com.. http://wiki.bme.com/index.php?title=PPD_Reaction (accessed October 6, 2013).

Sometimes instead of being henna, "black henna" is made using a chemical called PPD (P-Phenylenediamine), either on its own or combined with natural henna. In many people, this can lead to severe reactions including blisters, lesions, rashes, etc. Assuming it enters the body (which it can do via the skin), PPD toxins can collect in the internal organs. This damage, most often liver and kidney, can show up

later, even if there are no external symptoms. In addition, PPD is a carcinogen (causes cancer), and artists should be concerned about breathing it in as exposure can lead to lung complications such as asthma.

In extreme cases, PPD exposure can cause DEATH.

PPD reactions sometimes happen within a day of the henna's application, but it is not unheard of for them to show up literally weeks, or even a month and a half later, even after the henna has largely faded — meaning that allergy spot tests are virtually useless. As well as being contained in some henna products, PPD is also contained in many "oriental black" hair dyes, which are often used by unscrupulous henna artists.

"Natural" hennas are not generally able to achieve a jet black effect; the best you'll normally get is dark browns. If your fresh henna becomes jet black within a few hours, worry! Assuming you visit a doctor or dermatologist, make sure to tell them that you may be having a PPD reaction — not all will know that PPD is an active ingredient in black henna.

⁸⁴³ Ann, comment "Warning about Henna Tattoos" on Bali Travel Forum, September 20, 1999

<http://www.balitravelforum.com/archives/199909/58083.html> (accessed October 9, 2013)

I found a forum similar to this forum on henna stuff and this is the reply I got to my enquiry.

"On your vacation you were hennaed with "Black Henna" that contains a chemical called PPD. It causes exactly the problem you are describing. Go to a doctor now. Read this link. Print it out and take it to your doctor. <http://www.bioch.ox.ac.uk/~jr/henna/warnings.html>

⁸⁴⁴ Ibid

⁸⁴⁵ http://s148.photobucket.com/user/pkortum/media/IMG_6671.jpg.html (accessed October 9, 2013)

⁸⁴⁶ Mikey, comment "Watch out fake tattoos," posted to Bali Travel Forum June 9, 1999

<http://www.balitravelforum.com/archives/199906/48458.html> (accessed October 7, 2013)

Tempory tattoos can be fun...butI got one in 1996-no reaction and tatoo lasted about 10 days. I got one in 1998-it was gone after 4 days and left a rash that lasted for a month. My advice- be careful and stick to hair braiding and massages.

⁸⁴⁷ Larry commented "Tatto" posted to Bali Travel Forum, December 17, 1997

<http://www.balitravelforum.com/archives/199712/1641.html> (accessed October 7, 2013)

⁸⁴⁸ "A BAR CALLED BALI; COVER STORY." *The Sun Herald* (Sydney, Australia). May 17, 1998. Date

Accessed: 2013/08/30. www.lexisnexis.com/hottopics/lnacademic.

"It's a home away from home," he says, "no worries. We were still in the pool at 7am the other morning drinking Bintangs meeting other crews. Getting into the traditional Aussie pissed-talk. Mate, I wouldn't mind taking a few slabs of the Bintang home. I'm not kidding. I love it."

His mate Gary wants a henna tattoo that lasts two weeks - they're all the rage in Kuta this year. He wants to freak out his mum when he gets off the plane at Tullamarine. Ruth's shopping 'til she drops meanwhile - sarongs, suede jackets, wood carvings, hats. She spent a million rupiah today. In Kuta every Australian can be a millionaire.

"This is Bali, my friend," he says. Make a f---wit of yourself, doesn't matter. What goes away stays away."

Doing yourself an injury under the influence is just one of the many hazards in Kuta, where mass tourism began in the mid-1970s. The rips on the beach are fearsome and dangerous. The streets, lined with tiny shops, are narrow, uneven and noisy with constant motorcycles, jeeps and cars. To walk down Kuta streets means being accosted by aggressive street sellers who, if you refuse their fake watch or dodgy baseball cap will offer, in more than a whisper, hashish, marijuana, ecstasy, acid, magic mushrooms or heroin. Or all of them, and nine times out of 10 they'll be paid agents for the police. They'll offer you a lift, a taxi. Or, if you're a man, they'll offer you a woman - walk out of a bar and you'll be surrounded by cabbies, touts and women offering sex. "It's grouse. They're really loose," says one of the young Aussies who has availed himself of this service nearly every night of his holiday. Sometimes he pays, sometimes he buys the women drinks, sometimes he runs away after he's had sex. He knows about AIDS - he says he always wears condoms - but hasn't considered he might be robbed while he's in one of the dark little rooms in the Kuta back alleys where the women take him.

But it's deep in the steamy Kuta nights that the young Aussies go truly mad, where all formalities finally dissolve. This is the Bali that more sensitive travellers avoid. The Sari Club, a big, rowdy nightclub on the Jalan Legian, the heaving main road, is exactly what they hate about the new Bali. The cultured Australian leisure masters of Seminyak and Sanur would deem it just another pitstop on a holiday from hell.

⁸⁴⁹ Maria, comment "Henna Tattoo" posted to *Bali Travel Forum* May 29, 1988.

<http://www.balitravelforum.com/archives/199805/13156.html> (accessed October 7, 2013)

Has anyone had a henna tattoo that has reacted badly?. I was in Bali at beginning of May and I had a dolphin on my arm. Two weeks later it started fading and I cleaned it off with alcohol. It immediately got itchy and swelled. That was two weeks ago. It is now a big blister. Has anyone experienced this and does it scar?

⁸⁵⁰ Sue, comment, "Tattoo Sickness" posted to *Bali Travel Forum* October 28, 1998.

<http://www.balitravelforum.com/archives/199810/30372.html> (accessed October 7, 2013)

⁸⁵¹ Kristin, comment "Henna Tattoo" posted to *Bali Travel Forum* May 29, 1988.

<http://www.balitravelforum.com/archives/199805/13354.html> (accessed October 7, 2013)

I know of two guys that came back around about 2 weeks ago and both of them got one each - they have been back to their local doctor twice to get antibiotics because of the bad reaction - sounds very similar to yours. Don't know about scaring but I'm going back in August and as much as I'd love to get one - after looking at the guys on the streets who do them, definately won't be rushing to get one....

⁸⁵² Karen, comment "Tattoes and pierce in Bali ..?" posted to *Bali Travel Forum* April 30 1998.

<http://www.balitravelforum.com/archives/199804/11319.html> (accessed October 7, 2013)

Outside Matahari Department store in Kuta you can get fun type henna tattoes that last for a couple of weeks and from what I remember cost from about Rp20,000 upwards depending on size and content. My friends had them done to shock husbands back home, they must have been popular as the guys were

constantly busy. As for the real thing, I saw advertised but cannot dream of recommending, ditto body piercing.

⁸⁵³ Anna, comment, “some advice on temp. henna tattoos” posted to *Bali Travel Forum*, October 29, 1998.

<http://www.balitravelforum.com/archives/199810/30432.html> (accessed October 7, 2013)

In the Herald-Sun newspaper in Melbourne there have been several reports of people having adverse reactions to the temporary henna tattoos. This is their advice summarised. There are two sorts of henna tattoos - the natural brown henna ones and the black henna ones. The black ones are usually the culprit because they have had hair dye added to them. Some may also have petrol added to them. You should smell the liquid, if it smells like petrol, don't use that person. Get a small test done on your arm and wait a few days. If you have no reaction, then it's probably okay to go back to the same person and have it done. The natural brown ones prevent sun getting through to the skin, but the black henna ones can absorb more sun and cause burns so they should be protected well from the sun. This is what the doctors quoted in the paper have said. Some people have had very bad reactions to them which will require plastic surgery to cover up, but many other people have had no problems. It just depends on the sensitivity of your skin which is why you should have it tested first.

We went to Bali 6 weeks ago now for a family holiday, even though we all had a great time I am wishing we hadn't gone now. My son had a temporary henna tattoo on his arm the day before we left to come home and it has left him with some nasty symptoms. At first the tattoo itself was extremely raised and red, after many treatments it started to heal but a rash came over his body mainly on his arms and especially on his legs. \$300 later he is looking OK but I'm sure it is still in his system and not knowing what it really was I would like to warn everybody **DO NOT HAVE A TATTOO FROM A THIRD WORLD COUNTRY**. His treatment has been intravenous Vitamin C and paw-paw cream. This treatment seems to work better than cortisone creams.

⁸⁵⁴ Chris, comment, “I did it – never again” posted to *Bali Travel Forum* October 29, 1998

<http://www.balitravelforum.com/archives/199810/30447.html> (accessed October 7, 2013)

I got tattooed two weeks ago in Kuta at the (what they make you believe) inventor of temp. tattoos and award-winning amunez guys. One day later the skin started reacting badly in the way of an allergy or so. Looked very serious and I got afraid it could get infected, so I kept it out of the sun and hot water and what they suggest in their “guarantee”. Back to Kuta 4 days later I showed up at the same guys and showed them what happened. They were not very impressed and told me, that there is a treatment available and showed me a little paper bag with a crème and some instructions in it. They offered me this OR my money back. I convinced them to give me the cream, my money AND even the money of my girlfriends tattoo (which looked pretty decent, even now, two weeks later) – by offering to start showing to all waiting customers what happened to my tattoo! They were very afraid I could ruin their business so did not continue to argue. My advice: **DON'T DO IT!!!!**

⁸⁵⁵ Jane comment “henna tattoos” posted to *Bali Travel Forum* February 17, 1999

<http://www.balitravelforum.com/archives/199902/38308.html> (accessed October 13, 2013)

Thought that the tattoos were henna only and safe, my son age 9 got a scorpion and as it had faded after a week was able to renew it, free of charge!!!! I may add that this was done at the hotel alongside the hair

braiding and massaging. Now 4 months later and numerous doctor visits he is still sporting his Scorpion (albeit faded). Big lesson to be learnt here.

⁸⁵⁶ screamer comment “henna tattoos” posted to *Bali Travel Forum* February 16, 1999

<http://www.balitravelforum.com/archives/199902/38233.html> accessed October 13, 2013

⁸⁵⁷ Severina, comment “Petrol” on *Bali Travel Forum*, February 16, 1999.

<http://www.balitravelforum.com/archives/199902/38237.html> (accessed October 9, 2013)

Sorry to hear you ad problems but sound like quite a few people have problems with it. A young guy in our hotel had his tattoo blister badly too. We told him to put ice on it and keep it out of the sun for several days (luckily he said he would have only been sitting in the shade all day drinking at the pool bar any way)and it seemed to go down. But later we saw an older fellow who had his stomach tattooed a while ago that had left a large ugly red scar that looked permanent. We were told its because some of the side street operators thin the stuff with petrol which is what causes the blistering.

⁸⁵⁸ Hili. Comment “re henna tattoos” posted to *Bali Travel Forum* November 19, 2006

<http://www.balitravelforum.com/archives/200611/40497.html> (accessed October 12, 2013)

my son had a tatto fone inbali two years ago, and I will never forget it the following day he was crying and screaming in agony. I think they use boot polish and the tattoo it self started to blister. So that is one thing both my boys will not be getting at christmas in Bali this year

⁸⁵⁹ KIWI BRANDS -- SHOE POLISH. *MATERIAL SAFETY DATA SHEET*

<http://www.herc.org/library/msds/shoepolish.htm> (accessed October 12, 2013)

Ingredient: M-PHENYLENEDIAMINE

⁸⁶⁰ Amber Yarbrough. My Life as an Expat. Tuesday, August 28, 2012

<http://amberslifeinjakarta.blogspot.com/2012/08/bali-part-one-1.html>

I was quickly entranced by a sign advertising Henna, a temporary tattoo art that originated centuries ago.

An Indian friend from high school always had these and I have ALWAYS wanted to get one! So without hesitation, I marched over and had the artist hook me up. I love it. It's still on my foot -- although it is beginning to fade. However, I am now more inspired than ever to go through with getting a special tattoo that I have wanted forever on my hip.. before my world traveling comes to end.

The guy was pretty chill. He used this Henna tar like substance from a Henna tree and mixed it with flour which produced the black stuff you see that he's using. He used a metallic type tool to apply it. It didn't hurt -- after all, he never punctured the skin. :)

Here's the finished product.

The creativity of the Indonesians in general continues to amaze me. He did my Henna tattoo all by free hand. Amazing.

⁸⁶¹ Spiral Arts. Comment, “danger! Tatoos (Black Henna)” posted to *Bali Travel Forum* June 12, 1999

www.balitravelforum.com/archives/199906/48760.html (accessed October 12, 2013)

Thought it'd be sooo cool to have a design from chest to belly. Alas, #1 the artist from Ubud Tatoon Shop increased the price 3X when finished and #2 tho the design was cool, I ended up with very bad reaction and welts, later ended up in the hospital from the excruciating pain. Ended up paying lots of bills and suffering for the sake of Art! I do believe they use artificial dyes (Alias Black Henna) and mix them with petrol and or kerosene, YUK! Save yourself and money. Renee

⁸⁶² Peta Rasdien, “Bali black henna health alert” *The West Australian*. September 4, 2013.

<http://au.news.yahoo.com/thewest/a/-/wa/18773124/bali-black-henna-health-alert/> (accessed October 12, 2013)

⁸⁶³ Peacock Hair dye *NYC Inc LTD*. http://nyc.en.alibaba.com/product/222928652-218338328/Peacock_Hair_dye.html (accessed October 21, 2013)

Peacock Hairdye has ideal effect for hair as well as skin in middle east and Afric.

We have top reputation in the field.

Peacock hair dye is also available with same 6 g package ,
including plastic glove, plastic cup, paper and glass bottle.

⁸⁶⁴ Bigen Powder *Beauty Color Int.Co.Ltd*. http://www.everychina.com/f-z51f572b/p-91971012-bigen_powder.html
(accessed October 21, 2013)

easy to use,

cover the grey hair 100%,

safe and natural.

black powder,

contain 6 gram ,

with one dyeing comb.

⁸⁶⁵ Xmanrox. Comment “Already posted this” Posted to *Bali Travel Forum* April 3, 2006

<http://www.balitravelforum.com/archives/200604/57259.html> (accessed October 11, 2013)

⁸⁶⁶ Steve K comment “No, he said that they take batteries” posted to *Bali Travel Forum* July 6, 2006.

<http://www.balitravelforum.com/archives/200407/94099.html> (accessed October 14, 2013)

open them up and crush the insides to get the acid and mix it with dye then apply as tatoos. That's what he told me his friends do. Like I said, I didn't believe it but now I do after reading about all the reactions.

⁸⁶⁷ Peter C. Comment, "Temporary Tattoos" posted on *Bali Travel Forum*, June 12, 1999.

<http://www.balitravelforum.com/archives/199906/48749.html> (accessed October 12, 2013)

Temporary or just risky. There were a large group of us who had these tattoos done last year a few of the group had no reaction and some had a small reaction .Myself the reaction was very unpleasant ,sore and itchy skin with a rash lasting months after having them done I also had a raised imprint of the tattoo that looked as though it was going to scar for life this lasted for about 4 months and slowly the skin returned to its normal colour. While in Bali I asked the tattooist what they were using so as I could buy some to bring back home thinking this would be good to do when ever some friends wanted a temp. done, I would be to worried about being sued in this country if they had the same reaction. The product they use for the tattoos is a Chinese hair dye and can be bought at most department stores in Bali it is mixed with some petrol or chemical whatever the tattooists can get their hands on, that seems to be where some of problem is why some people have various levels of a reaction and some dont it depends on their ability to totolerate these ingrediants on their skin. My advice is be very careful. Peter.C.

⁸⁶⁸ Peta Rasdien. "Bali black henna health alert." *The West Australian* September 4, 2013

<http://au.news.yahoo.com/thewest/a/-/wa/18773124/bali-black-henna-health-alert/> (accessed October 14, 2013)

The "black henna" used in temporary tattoos popular in Bali has tested positive for high concentrations of an allergen known to cause severe dermatitis.

Testing at WA's ChemCentre residues laboratory of a sample collected on the holiday island by The West Australian last month confirmed a 17 per cent concentration of p-Phenylenediamine. The chemical is listed in the Australian poisons standard, the Standard for Uniform Scheduling of Medicines and Poisons, and banned for use in skin colouration products in Australia.

It is, however, allowed for use in hair dyes where concentrations are usually below 6 per cent, as long as the packaging contains appropriate warnings about the potential for skin reactions.

Scores of people, including some young children, have returned from Bali holidays with serious skin reactions requiring medical attention in recent years after getting a decorative temporary black henna tattoo.

Skin and Cancer Foundation dermatologist Rosemary Nixon, who specialises in contact dermatitis, said "black henna", was not henna at all. Henna, which caused few reactions, was a brownish colour.

She said on its own PPD was one of the strongest known allergens. However, some artists in Bali set their clients up for a double whammy.

"We have heard of and observed people mixing PPD with kerosene and by mixing PPD with a solvent it really facilitates it getting into the skin and leading to sensitisation," Associate Professor Nixon said.

One study found 80 per cent of people exposed to PPD became sensitised.

Not everyone would have a reaction immediately and some people could even have multiple tattoos before a reaction occurred.

⁸⁶⁹ Rada Rouse, National Medical Correspondent "FED: Dermatologists warning on 'welcome to Bali' tattoos."

Nationwide General News; Australian General News. AAP NEWSFEED. May 14, 1999 Date Accessed: 2013/08/30. www.lexisnexis.com/hottopics/lnacademic.

⁸⁷⁰ The Griswald Family. Comment, "Temp tattoos" posted to *Bali Travel Forum* June 9, 1999

<http://www.balitravelforum.com/archives/199906/48462.html> (accessed October 12, 2013)

Both sons got a tattoo. One was fine the other had a rash the shape of the tattoo for nearly a month. It was very itchy and sore. They were both done by the same people at the Galleria at Nusa Dua.

⁸⁷¹ Mikey. Comment, "Watch out fake tattoos" posted to *Bali Travel Forum* July 9, 1999

<http://www.balitravelforum.com/archives/199906/48555.html> (accessed October 12, 2013)

Tempory tattoos can be fun...butI got one in 1996-no reaction and tatoo lasted about 10 days. I got one in 1998-it was gone after 4 days and left a rash that lasted for a month. My advice- be careful and stick to hair braiding and massages.

⁸⁷² Amber Yarbrough. My Life as an Expat. Tuesday, August 28, 2012

<http://amberslifeinjakarta.blogspot.com/2012/08/bali-part-one-1.html>

The creativity of the Indonesians in general continues to amaze me. He did my Henna tattoo all by free hand. Amazing.

⁸⁷³ Sandra Bull. "Bali henna tattoos scar followers of fashion." *Courier Mail* (Queensland, Australia). December 2,

1999. Date Accessed: 2013/08/30. www.lexisnexis.com/hottopics/lnacademic.

"The typical reaction is a very red, swollen, almost watery blistery looking area in the outline generally of the design which has been applied," said Dr Richard Tomlins, of the Australian Embassy's medical clinic in Jakarta.

The reaction erupts a few days or weeks after the temporary tattoo is painted on.

"I have no idea what is causing the reaction, the assumption is it's the henna or some other component, God knows what they're putting in it," Dr Tomlins said.

"I would guess there's probably not huge numbers of people with this reaction, but I suspect there's a few wandering around."

Dr Tomlins said similar cases had occurred on the nearby Indonesian island of Lombok, also popular with Australian tourists.

Doctors say they don't know yet if the worst cases will heal or leave life-long thick, red scars.

"That depends on a number of things -- the severity of the original reaction and also whether the kids or adults involved scar badly anyway -- only time will tell," Dr Tomlins said.

Betty-Ann Wassill's 10-year-old daughter Danielle is one victim still waiting to see if her scars will heal. She developed a painful reaction to two henna tattoos on her arm and ankle.

Danielle begged her mother for the tattoos a month ago after seeing them on other kids at a beach on Lombok, just east of Bali.

"The tattoo started to fade after about two weeks and then all of a sudden it started to get red and raised," Mrs Wassill said.

"Everywhere it touched was a blister -- I have never seen anything so awful looking. Now it looks as if she has been burned, it's a red, thick scar in the exact shape of the tattoos."

⁸⁷⁴ McCabe, M. 2002. *Tattoos of Indochina: Magic, Devotion, & Protection, Thailand, Cambodia and Laos*.

Schiffer Publishing Limited. P.9

(Text refers to a photograph on page 9 of a woman named Ouy, sitting in front of her shop on Sukhumvit in Bangkok, signs advertising Henna Paint, Tattoo, and Piercing) "Her section of Bangkok is infamous to say the least. The completely over-the-top streets called Soy Cowboy and So Nana, where half naked girls dance in seedy bars to the frantic Western beat, are a few feet away. Nightly she does battle with drunken foreigners, pickpockets, drug addicts, and streetwalkers. A lot for a pretty woman to deal with while she's trying to make a living.

She started to tattoo two years ago and has maintained her shop for just over a year. As a young woman in college she studied to become a secretary but quickly became disillusioned with that path. Her ex-husband was an accomplished Bangkok tattooer and after they broke up, she decided to pursue the art to support herself and her young daughter.

Tribal tattoos from Southeast Asian cultures had long fascinated visitors, and were much admired by the Modern Primitive aesthetic. Tattoo shops were set up in the districts catering to tourists, alongside bars and sex shops, but obtaining one would decrease a tourist's employability and social acceptability upon return home. Risks of infection and disease from permanent tattoos were well understood, and those risks were one of the reasons that tourists wanted a temporary tattoo applied without needles; henna was a popular alternative in the tattoo and piercing shops.

⁸⁷⁵ Sheree. Comment, "TATTOOS - FAKE CAN CAUSE IRRITATIONS TOO" posted to *Bali Travel Forum*

December 27, 1998. <http://www.balitravelforum.com/archives/199812/34077.html> (accessed October 12, 2013)

Tattoo's applied to the skin via needles expose some risk of infection, which is understood by almost everyone. Many visitors to Asian countries however are tempted by the tribal Tattoo's applied to the skin via needles expose some risk of infection, which is understood by almost everyone. Many visitors to Asian countries however are tempted by the tribal appearance of temporary tattoo's, especially as the temporary tattoo's are not applied by needles. Some of the transfers are however, made with chemicals that may cause skin irritation (including petrol / gasoline). Always ask to patch test temporary tattoo's (on a very small area on the forearm), and note any reaction or irritation over the next few days. Only buy and apply temporary tattoo's if you did not encounter any problems.

⁸⁷⁶ Gianne comment "Fake Tattoos?????" posted to *Bali Travel Forum* June 10, 1999

<http://www.balitravelforum.com/archives/199906/48520.html> (accessed October 12, 2013)

There were 12 of us in Bali October 1998 and all of us except one had some reaction to the temporary tattoos. I would not recommend it to anyone as my own ended up almost permanent leaving me with a red welt gecko until almost Feb 1999. It has since gone but on my return this year we definitely will not be getting tattoos instead sticking to hair braiding and finger nail painting. (Less harmful) Our tattoos were excellent and done by someone inside our hotel at the Garden View at Legian Gaiann

⁸⁷⁷ Teapot. Comment "All types of infections on Holidays" posted to *Bali Travel Forum*

December 24, 2011. <http://www.balitravelforum.com/archives/201112/87345.html>

It is pretty obvious that Bali standards are not that of more western countries and visitors have to make sure that they are careful.

⁸⁷⁸ Anna. Comment, "some advice on temp henna tattoos" posted to *Bali Travel Forum* October 28, 1998.

<http://www.balitravelforum.com/archives/199810/30432.html> (accessed October 12, 2013)

The natural brown ones prevent sun getting through to the skin, but the black henna ones can absorb more sun and cause burns so they should be protected well from the sun.

⁸⁷⁹ Danni. Comment "Sometimes...sometimes not!" posted to Bali Travel Forum September 20, 1999

<http://www.balitravelforum.com/archives/199909/58118.html> (accessed October 12, 2013)

I know what you mean Ann, I had a couple of "Henna" tattoos, no reaction whatsoever except a mark when the Henna finally faded of a suntan mark! I have olive skin - I don't know if that makes any difference. My friend, who is fair skinned I might add, had a reaction like the one you are talking about. Raised red pimples and rather itchy - but now a few months down the track (we were there in June) it is gradually fading too. So I guess people will just have to make a choice. Our family is planning our 4th visit soon - I don't think I will let my 2 little daughters (5 & 2) get them just the same, me?.....well I don't know!

⁸⁸⁰ Julee. Comment, "Not a good idea" posted to Bali Travel Forum September 1, 2012

<http://www.balitravelforum.com/archives/201209/59442.html> (accessed October 12, 2013)

As everyone has already mentioned, not henna, PPD. My Son had a severe reaction. Ended up in hospital once back in Australia. Nasty scar. Now his body will be even more sensitive to this chemical which is found in many hair dyes and even dentist products. Our doctor has alerts on all of his medical records now. He has dark olive skin, our daughter who has very pale skin did not react at all. Personally, I would not take the risk.

⁸⁸¹ Teapot. Comment, "All types of infections on Holidays" posted to *Bali Travel Forum*

December 24, 2011. <http://www.balitravelforum.com/archives/201112/87345.html> (accessed October 12, 2013)

My daughter got a staff infection from a henna tattoo at the beach, they accidentally scratched her skin and she got a blister, my son had a deep scratch in his leg and we went to the dr and both kids had the same infection as it was contagious. We now are more aware -lesson learned!!

⁸⁸² Garuda. Comment, "temporary tattoo" posted to Bali Travel Forum August 31, 2005.

<http://www.balitravelforum.com/archives/200508/75251.html> (accessed October 12, 2013)

Hi bigpete, regarding tem tattoos, my 16 year old son has had a couple over the last few years with no problems, but in aug he decided to have one done on his leg and guess what ? within hours huge running blisters, the only thing that was different this time is he is a bit hairy on the legs and they shaved it with a dry razor and i feel they scraped the skin and then applied the tattoo , he had a trip to clinic cost 200.00au and no getting it wet for 5 days, i would like to maybe suggest having a small dab applied and left for a few days to make sure all is okay, enjoy your holiday ps his tat cost 30.00rhp in the hotel

⁸⁸³ Inmyblood. Comment “Yes, im afraid the poor bugger down” posted to *Bali Travel Forum* August 1, 2006.
<http://www.balitravelforum.com/archives/200608/96700.html> (accessed October 12, 2013)

there mustve been diluting his stuff down or buying the cheap chemical one, rather than the henna, we too, had the same thing happen at kudeta on the beach. Only Jordy's reaction was very slight, just some itching.

BUT the 5th tattoo that he had done (over the course of our 2 month holiday), down at Legian Beach, has been a bad one, not in the same sense as your daughters, but its been a month now and the skin is white where the tattoo was and it gets itchy and dry. I havent really treated it with anything and Im sure it will fade, but poor Jordy will be 21 and still have this "raptor" tattoo on his leg!!! They know how to get the kids in dont they!!! And then, how do you say no, to something so seemingly harmless. Im not that worried about it though, but Jordy knows he wont be getting any more tattoos!! Doesnt want them either.

⁸⁸⁴ 123jc. Comment, “happened to me” posted to *Bali Travel Forum* June 8, 2009.

<http://www.balitravelforum.com/archives/200906/16400.html> (accessed October 12, 2013)

similar thing happened to me only it was much worse. I think due to the fact that i flew home a few days after i got it and it the reaction had started, and the pressure/lack of oxygen in the plane made it worse. It began to bubble up, half a cm high, then the bubbles popped, was not nice, lots of puss Any way, the scar went away after about 4 years.

⁸⁸⁵ Danni. Comment, “Sometimes...sometimes not!” posted to *Bali Travel Forum* September 21, 1999.

<http://www.balitravelforum.com/archives/199909/58118.html> (accessed October 12, 2013)

I know what you mean Ann, I had a couple of "Henna" tattoos, no reaction whatsoever except a mark when the Henna finally faded of a suntan mark! I have olive skin - I don't know if that makes any difference. My friend, who is fair skinned I might add, had a reaction like the one you are talking about. Raised red pimples and rather itchy - but now a few months down the track (we were there in June) it is gradually fading too. So I guess people will just have to make a choice. Our family is planning our 4th visit soon - I don't think I will let my 2 little daughters (5 & 2) get them just the same, me?.....well I don't know!

⁸⁸⁶ Kim. Comment, “tattoo’s” posted to *Bali Travel Forum* April 29, 2000

<http://www.balitravelforum.com/archives/200004/76844.html> (accessed October 12, 2013)

To anyone who is thinking of getting a tattoo DON'T, I took our son to the doctor and he may have to have laser treatment to get rid of scar tissue. The doctor has told me they use some kind of acid to keep the ink on the skin and then when it is exposed to the sun the skin gets burnt again hence the reaction.

⁸⁸⁷ Kim comment “Tattoo” on *Bali Travel Forum*, April 27, 2000

<http://www.balitravelforum.com/archives/200004/76724.html> (accessed October 12, 2013)

We have just got back from a great trip, but our 11 year old son has had some kind of reaction to his temporary tattoo, so be very cautious if you get one done. He had one done in the Hotel and one on the street and has reacted to both. can anyone tell me what is the general treatment.

⁸⁸⁸ “Two Families, Two Weeks in Bali.” <http://twofamilies2weeks.blogspot.com/2012/01/two-familiestwo-weeks-in-bali.html> (accessed October 14, 2013)

“Joel's tattoo was getting worse. It had now all blistered up. If only he had listened to me! I got on the net to see what I could do. There was quite a bit of information on there, and said to go to a doctor and get a cortisone creme. Luckily, in my little first aid supply, I had a tube, so started treating it with the cream.”

⁸⁸⁹ Hili. Comment, “henna tattos’ on *Bali Travel Forum* posted November 26, 2006

<http://www.balitravelforum.com/archives/200611/42956.html> (accessed October 14, 2013)

I no from experience what you are on about. Approximately two years ago my son had a henna tattoo done and the next day he was screaming in agony, the tattoo itself had blistered and he was in a hell of a lot of pain. We put phenegan cream on the blisters this seemed to help with the pain. You can buy this cream over in Bali and it is fantastic. So I sought of understand what youre husband went through.

⁸⁹⁰ Sally. Comment, “Henna Tats” posted to *Bali Travel Forum* November 1, 2005

<http://www.balitravelforum.com/archives/200511/12157.html> (accessed October 14, 2013)

My son had on on his back as soon as we got back to hotel straight after it was done it started swelling and looking like a burn. He said it was burning his back; we put heaps of cold waterand ice on it. It took about 3-4months to go away completely. Never again

⁸⁹¹ Sue. Comment, “Tattoo Sickness” posted to *Bali Travel Forum* October 28, 1998.

<http://www.balitravelforum.com/archives/199810/30372.html> (accessed October 14, 2013)

⁸⁹² Grobbos. Comment, “henna help” posted to *Bali Travel Forum* November 26, 2006.

<http://www.balitravelforum.com/archives/200611/42967.html> (accessed October 14, 2013)

⁸⁹³ Kate Lewis-Driver. “Our Holiday in Bali” posted to *Lilies for Kate*, April 16, 2013

<http://liliesforkate.blogspot.com/> (accessed October 13, 2013)

‘Must have’ good times in Bali regularly included getting black henna, having one’s hair braiding, shopping, partying, sunbathing, and admiring amusing antics of monkeys.

⁸⁹⁴ bellies. Comment, “Any tips on how to remove Bali Henna Tattoos?” posted to

<http://www.tripadvisor.com.au/ShowTopic-g297697-i9792-k3487227->

[Any tips on how to remove Bali Henna Tattoos-Kuta Bali.html](#) (accessed October 21, 2013)

I wish the Australian Government would put out warnings via travel agents so people are made aware of the risk. I have travelled to Bali 10 times and have never heard of this happening, yet now that its happened to my sons, several people have told me they know of others this has happened to. I feel terrible as a parent that I didnt know of the dangers, but I will certainly be telling everyone I know and advising my travel agent to warn others to avoid fake 'henna' tattoos when in Bali.

⁸⁹⁵ Grobbos. Comment, "henna help" posted to Bali Travel Forum November 26, 2006.

<http://www.balitravelforum.com/archives/200611/42967.html> (accessed October 14, 2013)

Thankx to those of you who gave your advise, yes idiots are everywhere i know..even on this forum but yes we have henna tatts each year from this smae guy who is very nice an we do know the risks the fuunny sid is my husband is 6ft2 an a big bloke who works in a mine an he got a silly lil henna tattoo an has reacted to it giving us all a giggle but just thought there maybe a miracle cure!!!! Maybe now he will have to get a real one yes I have four but I do feel sorry when it happens to kids...yeah an thanks will also try betadine? CHEEERS.

⁸⁹⁶ Vivi. "Vivi's First Tattoo from Bali, Indonesia" posted to *Vivi's Random Ramblings*. May 8, 2012

<http://www.vivisrandomramblings.com/2012/05/vivis-first-tattoo-from-bali-indonesia.html> (accessed October 13, 2013)

⁸⁹⁷ Amber Yarbroug. "My Life as an Expat." posted Tuesday, August 28, 2012

<http://amberslifeinjakarta.blogspot.com/2012/08/bali-part-one-1.html> (accessed October 14, 2013)

I was quickly entranced by a sign advertising Henna, a temporary tattoo art that originated centuries ago.

⁸⁹⁸ Rachel Browne "Everyone's a rock star here." *The Sun Herald* (Sydney, Australia). April 11, 1999 Sunday . Date Accessed: 2013/08/30. www.lexisnexis.com/hottopics/lnacademic.

⁸⁹⁹ Rachel Browne. "Having a Bali high time." *The Sun Herald* (Sydney, Australia). May 2, 1999 Sunday . Date Accessed: 2013/08/30. www.lexisnexis.com/hottopics/lnacademic.

⁹⁰⁰ Super disco Breaker. Comment, "Temporary Tadoo Advice" on *Bali Travel Forum* June 9, 1999.

<http://www.balitravelforum.com/archives/199906/48438.html> (accessed October 12, 2013)

⁹⁰¹ Daniel. Comment, "Skateboarding & semi permanent tattoos" posted to *Bali Travel Forum* March 24, 2000.

<http://www.balitravelforum.com/archives/200003/73814.html> (accessed October 12, 2013)

⁹⁰² Mad Batak. Comment "Petrol" posted to *Bali Travel forum* July 28, 2003

<http://www.balitravelforum.com/archives/200307/14400.html> (accessed October 15, 2013)

There are also warnings all over the island suggesting that people have a trial on the skin and then return in a couple of days if there is no reaction

⁹⁰³ Ron "Oily" Sprague. Comment,"First Amp" posted to *Cigar Box Nation* February 12, 2012

<http://www.cigarboxnation.com/forum/topics/first->

[amp?page=1&commentId=2592684%3AComment%3A994090&x=1#2592684Comment994090](http://www.cigarboxnation.com/forum/topics/first-amp?page=1&commentId=2592684%3AComment%3A994090&x=1#2592684Comment994090) (accessed October 13, 2013)

⁹⁰⁴ Liz. Comment “Temp Tats” posted to *Bali Travel Forum* July 10, 1999

<http://www.balitravelforum.com/archives/199906/48555.html> (accessed October 12, 2013)

Both myself and my husband had them done in the Ramada Bintang Hotel in Tuban last November, both were great and lasted about 4 weeks. We had two each with the larger ones costing around 80,000rp and the smaller ones about 45,000rp I guess you get what you pay for.

⁹⁰⁵ leisha. Comment “had many temp tats dun” posted on *Bali Travel Forum* July 6, 2004.

<http://www.balitravelforum.com/archives/200407/93878.html> (accessed October 15, 2013)

get 3 or 4 every year i go ova, neva had nething hapen, every1 of em has bin dun on tha bch. no probs, ges it depends on da person az 2 wetha u gt a reaction, coz my frend got 1 dun 1st yr off da same guy dat i gt min off, n she got blisterz n stuf but, i hav had many dun whist on hols n az i sed nuffin has eva hapnd 2 me

⁹⁰⁶ “Bali 2009, Day 4 of 5.” *Everything and a Jerk*. May 7, 2009.

http://jarvisjerk.blogspot.com/2009_05_01_archive.html (accessed October 13, 2013)

⁹⁰⁷ SD. Comment, on “Sudanese Henna” posted to *The Sudanese Thinker* September 25, 2008.

<http://www.sudanese thinker.com/2006/12/22/sudanese-henna/> (accessed October 23, 2013)

⁹⁰⁸ Hannan Bee. “Prom/Bridesmaid Henna on Back (Black Henna)” *YouTube.com* May 30,

2013 <http://www.youtube.com/watch?v=5N6ONZeJwos> (accessed October 16, 2013)

⁹⁰⁹ cooldex06. “Boracay birthday braids and henna,” *YouTube*. <http://www.youtube.com/watch?v=Mf3b4CHanuE>

(accessed October 16, 2013)

⁹¹⁰ Dogstars 100. “Christine gets her first Henna Tattoo Black & Red,” *YouTube*.

<http://www.youtube.com/watch?v=Gd8aQAbYKqQ> (accessed October 16, 2013)

This was a fun weekend activity. Found a Somali Marketplace in Minneapolis and my friend and I got Henna tattoos. All the women there were very kind. We had a good time. It takes longer than I thought it would. She painted my hands very quickly, but then we had to wait for the black to dry. Then they went back and added red. So we had to wait for the red to dry! After it all dried, they wiped it off with a rough cloth and put some oil on and we were good to go! Hope it lasts. Don't think I can go to Minneapolis every 3 weeks for new ones!

⁹¹¹ The Bali Driver. “Bali Visit - Tattoos and More at Kuta Beach” *You Tube*.

<http://www.youtube.com/watch?v=TyFGW5XeaOQ> (accessed October 16, 2013)

⁹¹² Ibid

⁹¹³ Janette. Comment “Temp tattoos” posted to *Bali Travel Forum* July 9, 1999

<http://www.balitravelforum.com/archives/199906/48444.html> (accessed October 12, 2013)

⁹¹⁴ “Angela. Comment “allergic reaction” posted to *Bali Travel Forum* April 27, 2000.

<http://www.balitravelforum.com/archives/200004/76731.html> (accessed October 12, 2013)

⁹¹⁵ Janieh. Comment “Tatoo” posted to *Bali Travel Forum* September 10, 2008

<http://www.balitravelforum.com/archives/200809/21301.html> (accessed October 14, 2013)

⁹¹⁶ CLB. Comment “Henna tattoos” posted to *Bali Travel Forum* July 15, 2005

<http://www.balitravelforum.com/archives/200507/55644.html> (accessed October 14, 2013)

A friend of ours from Bali bought his bottles of henna with him to Australia and I asked him about reactions and infections from the Bali tattoos.

He explained that he only uses henna, which is in a powder form and he mixes with water. He did a tattoo here for my husband and I and they were very black and faded after about a week.

He explained to me that some operators use a cheap ink, which can react with sensitive skins, but he always uses henna only.

We did not have a problem with them and I must admit that I was a bit worried, but now I have seen the small bottle of henna and it works!

I don't know how you can really determine if it is ink or henna that is used, but I would have him do it again!

⁹¹⁷ A Banda parent. Comment, “BEWARE – THE DANGERS OF “BLACK HENNA” TATTOOS AT THE COAST”, posted to *Word of Mouth*. September 4th, 2012

<http://www.wordofmouth.co.ke/beware-the-dangers-of-black-henna-tattoos-at-the-coast-by-a-banda-parent/>

(accessed October 31, 2013)

My daughter had had a reaction to such a tattoo on her back a couple of years ago, with the outline of the tattoo raised and red, itchiness, and then a scar in the form of the tattoo which faded over time. I was therefore aware that she could have another reaction, and told her not to have one, but when the henna lady came around, she assured us that hers was “real” henna, and that we must have previously been subjected to the “fake” stuff. Naively, we believed her and let our daughter have a tattoo on her arm.

I bumped into Steve Parkinson at Malindi airport, he medi-vacs people for a profession, and he told me that he has evacuated several children from the coast with toxic shock syndrome / anaphylactic shock as a result of “black henna”.⁹¹⁷

⁹¹⁸ Natural Expressions. Comment, “Reply to: allergy to PPD or other junk in black henna,” posted to *The Henna Page Discussion Forum*, September 17, 1998

<http://web.archive.org/web/20010308194701/http://www.hennapage.com/henna/discuss/messages/4394.html>

(accessed October 24, 2013)

Sure they aren't 100% natural but they are safe..... as safe as any cosmetic can be. If you're prone to allergic reactions with cosmetics or creams then you're probably skin sensitive to henna as well. As long as you educate your client and ask the relative questions I can't see a problem. If unsure do a test patch. Some of us are not so lucky, our customers want the colours and I would rather offer this service (keep customers & make money) than have them go down the road. I have to keep up with the demands otherwise I will be sitting on the side. I have been using colours for quite some time and so far not one problem. Actually I think about 95% of my customers have coloured tattoos, that's too many to disregard..for me.⁹¹⁸

The money will go in your POCKET!!...Do a test patch if in doubt..Tell your customer/client up front what the ingredients are..I do, and I have had NO problems with color or the black....

Except finding enough time in the day to get another artist to help with all those scheduling appointments!

⁹¹⁹ Avnstorp C, Rastogi SC, Menné T. 2002. Acute fingertip dermatitis from temporary tattoo and quantitative chemical analysis of the product. *Contact Dermatitis*. Aug;47(2):119-20.

⁹²⁰ Michael. Comment, "skaties and Tats," posted to *Bali Travel Forum*, March 24, 2000.

<http://www.balitravelforum.com/archives/200003/73827.html> (accessed October 12, 2013)

⁹²¹ Debra Solomon. "Stung by a Bali scorpion - FAMILY HOLIDAYS." *Weekend Australian*. August 11, 2007 Saturday . Date Accessed: 2013/08/30. www.lexisnexis.com/hottopics/lnacademic.

⁹²² Local Yakuza, comment "stupid tattoo, "smart" mother and son" posted to *Bali Travel Forum*, October 29, 1998.

<http://www.balitravelforum.com/archives/199810/30487.html> (accessed October 7, 2013)

⁹²³ ma_130812. Comment, "re: henna tatooes" posted to tripadvisor Marrakech Forum

http://www.tripadvisor.com/ShowTopic-g293734-i9196-k2824948-Henna_tatooes-Marrakech_Marrakech_Tensift_El_Haouz_Region.html#18408454 (accessed October 21, 2013)

⁹²⁴ Borrego, L., et al. "Sensitization to para-phenylenediamine in a streetside temporary tattoo artisan." *Contact Dermatitis (01051873)*, v. 52 issue 5, 2005, p. 288-9.

⁹²⁵ Michelle_GoldCoast. Comment, "same child different experiences" posted to *Bali Travel Forum*. September 10, 2008. <http://www.balitravelforum.com/archives/200809/21350.html> (accessed October 16, 2013)

we go to bali for a month most christmases and have done since our children were young... they are now 16 & 18. Our daughter and son had had lots of tattoos over the years from their balinese friends... one who stopped doing tattoos because of the 'infection' scaring issues. Our daughter tried another tattoo artist as our balinese friend no longer did the tattoos.... big mistake... infection... trips to get cream... I'm sure neither of

our children will get a henna tattoo again. Different people different reactions yes... but same child and different reactions... you have to decide if you want to take the risk.

⁹²⁶ Skyy. Comment, "I had no idea. I feel sick" posted to *The Henna Page Discussion* Forum. July 25, 2000.

<http://web.archive.org/web/20010211022609/http://www.hennapage.com/henna/discuss/messages/20446.html>

(accessed October 18, 2013)

(responding to photographs of black henna injuries) ... I am shocked and feel sick. I had never had anyone have a reaction like that. I will immediately stop using the black henna. I use natural henna also and in the future only use 100% natural henna. The burns shown are dreadful and I thank God that my clients never got that reaction.

⁹²⁷ "Tattoos without Needles: Salesmen of Temporary Tattoos Invade Kuta Beach" February 19, 2010. *The Bali*

Today. [http://www.thebalitoday.com/news/tattoos-without-needles-salesmen-of-temporary-tattoos-invade-kuta-](http://www.thebalitoday.com/news/tattoos-without-needles-salesmen-of-temporary-tattoos-invade-kuta-beach/)

[beach/](http://www.thebalitoday.com/news/tattoos-without-needles-salesmen-of-temporary-tattoos-invade-kuta-beach/) (accessed October 15, 2013)

That afternoon, Ketut was passing slowly through a few foreign tourists in Kuta beach. Ketut was offering his services to make temporary tattoos. One by one the tourists have gone. Unfortunately, in that afternoon his service was rejected. Ketut was still continuing on.

He picked up a yellow folder that proved to be his catalogue.

With the catalogue, he showed numerous examples of gorgeous tattoo. Just like an excellent salesman, he gave details of the entire contents of the catalogue he carried. The catalogue was filled with unusual symbolic images and sometimes they are difficult to be understood by some people. There was a picture of a dragon surrounded by fire, a skull with a pirate-style sword, an eagle's head and also scorpions. The pictures were representing the nature of male and their might. Besides, there were also images of feminine nature such as flowers and butterflies.

The other tattoo designs were explained by Ketut as a combination of tribal motifs and variety of other styles. "Just need to point the spot, then we could make the exact same thing" said Ketut offering. While for consumers who brought along their own design or drawings are still going to be served.

At Kuta Beach, temporary tattoos tariffs given to local and foreign tourists are different. For example the price for local visitors is a minimum of 20,000 rupiah, while for foreign tourists it is 30,000 rupiah. Size also determines the tattoo prices. "The price of twenty thousand is for tattoo with the smallest size, which is about five times five centimeters, while for the ten times five centimeters will be valued at thirty thousand rupiah", Ketut explained that afternoon while pointing to a cross-shaped image surrounded by tribal motifs.

"In making temporary tattoos the actual skill that we use is painting skill. So we must be clever at painting people's body. It is not necessary difficult, but it takes patience. Moreover, given that we are painting someone's body; we should at least behave politely to them. Do not let them feel uncomfortable", continued Ketut. He explained that he always tries his best and not to be in a hurry in painting his tattoo designs.

Meanwhile, Kadek (28) a temporary tattoo maker also claimed that orders for his service were slow. He said that the number of tattoos makers operating on the Kuta beach has reached tens of people. “The number was not many. But now, many have jumped in so prices are dropping. Once, the price of the small sized temporary tattoo can be priced at one hundred thousand rupiah. That was even only for the local tourists” continued Kadek who claimed to have undergone this profession since eight years ago

⁹²⁸ amandaquin “HENNA AT KUTA My Photo scholarship 2010 entry” *The Cultural Feasts of Indonesia*.

<http://journals.worldnomads.com/amandaquinn/photo/25189/704905/Worldwide/HENNA-AT-KUTAOn-Kuta-Beach-there-are-hundreds-of-locals-trying-to-make-a-livi> (accessed October 14, 2013)

⁹²⁹ Little Brown Bag. What’s in it? Borocay. <http://jjme.wordpress.com/philippines/boracay/> (accessed October 18, 2013)

It used to be that henna tattoos were done only in shops. In our recent Boracay trip, I noticed that there are so many henna tattooists in the beach area, so that brought down the cost of Henna tattoos. Price range vary according to size (surface area) and complexity of design, from. P150, to a high 300 to 550. Shhh, you can even haggle for lower cost.

The tattooists have a chart as reference for the designs, but you can request for some modification in the design.

The tattoo can last from 1 to 2 weeks, depending on how often you wash it, and the quality of henna used.

⁹³⁰ Menu. *Metro X77Z Sunset Café*. Bunisari Street, Kuta Beach. 2013

<http://www.balirestaurantfinder.com/metrosunset/index.html> (October 18, 2013)

⁹³¹ “Menu” *Real Coffee and Tea Café*. Borocay. 2013. <http://www.munchpunch.com/real-coffee-and-tea-cafe-boracay/menu> (accessed October 18, 2013)

⁹³² Monique P. Yazigi, “A Henna Party (Don’t Rinse),” *The New York Times*, Sunday, Late Edition - Final August 4, 1996.

⁹³³ Everest Diner. *Seamless. Your Food is Here*. 2013 <http://www.seamless.com/food-delivery/everest-diner-new-york-city.4174.r> (accessed October 18, 2013)

⁹³⁴ Monthly Minimum Wage Raised to between US\$73.66 to US\$86.56. Bali Employers Required to Pay New Minimum Rates Starting from January 2, 2008. *Bali Discovery Tours*. November 24, 2008 <http://www.balidiscovery.com/messages/message.asp?Id=4150> (accessed October 18, 2013)

⁹³⁵ Apa Agbayani PH at bottom 3 of 'world's wages'. *Rappler*. May 1, 2012. <http://www.rappler.com/nation/4612-philippines-at-bottom-3-of-world-s-wages> (accessed October 18, 2013)

⁹³⁶ cyncymc, comment “Have a Henna Tattoo” posted to Tattoo in Borocay Island, Philippines March 8, 2010 http://www.virtualtourist.com/travel/Asia/Philippines/Province_of_Aklan/Boracay_Island-1407255/Things_To_Do-Boracay_Island-Tattoos-BR-1.html (accessed October 18, 2013)

It used to be that henna tattoos were done only in shops. In our recent Boracay trip, I noticed that there are so many henna tattooists in the beach area, so that brought down the cost of Henna tattoos. Price range vary according to size (surface area) and complexity of design, from P150, to a high 300 to 550. Shhh, you can even haggle for lower cost.

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⁹³⁷ Nikki getting a henna tattoo done. Zanzibar, Tanzania http://blog.travelpod.com/travel-blog-entries/vermaakjeanne/the_world_2004/1188210180/tpod.html#pbrowser/vermaakjeanne/the_world_2004/1188210180/filename=nikki-getting-a-henna-tattoo-done.jpg (accessed October 21, 2013)

Salama would not allow anyone else to give us the henna tattoos and cornered us the first day to promise bookings from her. Although the tattoos came out really well, a top up resulted in blisters on the last day there.

⁹³⁸ "Henna Decoration, Lucrative in Kaduna." *Daily Trust* (Abuja). April 21, 2013. Date Accessed: 2013/09/16. www.lexisnexis.com/hottopics/lnacademic

Business of henna decoration is lucrative in Kaduna as many young girls use the opportunity of their leisure time to make money from decorating women mostly during festive periods and decorating brides for marriages.

Henna as it is commonly called is a plant or bark extract which is mixed with some other ingredients like lemon juice and cloves and used to beautify the skin and fingers in artistically wrought patterns. Dating back to pre-colonial times among the Hausa, Fulani, Kanuri and other people of Northern Nigeria, this fine art remains popular to this day. A northern Nigerian bride-to-be no matter how well dressed she may look will not be deemed complete until her hands and legs are painted with the locally made liquid fluid known as henna.

Today, the act of henna decoration does not only remain within northern Nigerian women but is been practised between Islamic and non-Islamic countries, as interested Christians too decorate themselves with henna. For many northern women however using henna is an Islamic alternative to western nail polish. While elderly women still prefer the local henna popularly known as 'lalli', young girls and modern brides prefers the henna design because to them, it looks like tattoo and it can be applied creatively to draw whatever thing the designer can imagine.

Sunday Trust however observed that young girls especially Hausa girls in Kaduna move from one area to the other advertising themselves and the stuff they've got in henna decoration. This decoration can be made on the hands, legs, chest and other parts of the body depending on the choice of the person who wants the design.

Asma'u Abdullahi is one of the young girls in Kaduna who is making brisk business from henna decoration. She moves from place to place to get customers to do the decoration. Her approach to people makes those who are not interested or who are hearing about the decoration for the first time to admire and want to do it. She is into varieties of designs.

She said she charges between N5,000 to N8,000 and above to decorate a bride for her wedding depending on the type of design desired by the bride.

To design only the two hands she said cost N400 but that it could also be done at N200 depending on the design. She said that apart from the things she buys from her money, she saves nothing less than N10,000

to N15,000 monthly. "I make about N3,000 to N4,000 daily because I already have my customers and I still move around to get more. I always get the inspiration of designs each time I am set for work," she said.

Asma'u who is an SS2 student lives in Kakuri, a suburb of Kaduna state but people from Barnawa, Ungwar Rimi, Refinery quarters and other parts of the state used to call her from time to time especially during festive periods for henna decoration. She said she started the skin decoration eight years ago when her mother was still alive and that nothing gives her joy like doing the henna decoration. "Even after I complete my education, I will still continue this work and in fact go professional,"

"When I just started the decoration, I used to buy the henna mixture tied inside santana leather and I continuously do different designs on a daily basis for my younger sisters and friends until I became perfect. At that time, people were laughing at me but now it is paying off and I am really enjoying what I am doing. I don't mind walking and working under the sun as far as I am able to get my work done beautifully," she said.

Due to her passion for the work, she has taught all her sisters and friends how to do henna decoration and they too are all into the business now. "Sometimes we all come out en masse canvassing for customers," she noted disclosing that since she started the work, she has ceased to be a burden on her father as she has been settling some fees in her school and she has almost finished buying her marriage items.

Asma'u also mentioned that she concocts the henna she uses herself. "I go to Kasuwar Bechi in Tudun Wada to buy the black dye, lalli perfume, hydrogen and flour for making snacks, so I mix them well. Apart from using the mixture for decorating my customers, I also tie the mixture in small leather and sell. I was using the foreign one before but it was not giving a fine output and customers were complaining, that was why I decided to mix it myself,"

"I buy the materials in large scale. Like the dye, I buy a half kilo at N3,000, I buy the hydrogen in big rubber container at N2,000, and the perfume I sometimes buy that of N3,000 depending on the quantity I want to mix. At the end of mixing and selling, I make over N30,000 profit," she stated.

She advised other young girls instead of relying solely on their parents for every of their needs to venture into the business saying it will not disturb or affect their education in anyway and that with only N50 they can buy the tied henna mixture and start the business and gradually save money to do it on a large scale. "The good thing about the business is that the business advertises itself, once you are creative and can design well, people who see your work of art will look for you," she said.

⁹³⁹ Thepinkjade, comment, "Henna from Boracay, Filipinas" to *deviantART* 2010

<http://thepinkjade.deviantart.com/art/Henna-from-Boracay-Filipinas-157238995> (accessed October 18, 2013)

⁹⁴⁰ "Life of Borocay: Party! Party!" posted to *Guest to Utopia* May 2, 2012.

<http://www.gesttoutopia.com/2012/05/life-of-boracay-party-party.html> (accessed October 18, 2013)

Three friends got black henna temporary tattoos during the day, and went bar-hopping in the evening.

⁹⁴¹ "What to do in Pattaya." *Pattaya Beach Hotel*. <http://www.pattayabeachhotel.net/what-to-do-in-pattaya/>

(accessed October 18, 2013)

Many people get a tattoo while in Pattaya. This is a big step and hard to reverse, but there is no denying tattoos are currently very popular. If you are going to get one, there are several excellent artists in Pattaya. Be sure you check to see needles are sterilized properly. A less drastic step is a temporary henna tattoo from one of the vendors wandering the beach.

⁹⁴² Borocay. "Little Brown Bag. What's in it?" <http://jjme.wordpress.com/philippines/borocay/> (accessed October 18, 2013)

Henna Tattoos are very popular on this island. They are reasonably priced, and some of the artists are really skilled. We found a friendly booth to do our henna tattoo. I chose a butterfly/flower design that covers my shoulders and half way down my back. My husband got a tiger on his back ... very predictable of him. The artists were probably young men, in their early twenties. For some reason, the local men on the island are really fit and in good shape. I guess most of the time they work out and do sea sports. They were very friendly to my girlfriend, naturally because she's Caucasian and pretty. My girlfriend enjoyed the attention she was getting from her tattoo artist as it was quite flattering, haha. What else can I say? All of us were happy customers. We had to be really careful not to stain the tattoo on the bed sheets at the hotel. Most hotels charge an exorbitant fee as a penalty as they claim the ink cannot be washed off the sheets.

⁹⁴³ Apple Ochon, posted "Breathtaking Borocay: Henna Tattoos" to *The Appletizer* October 11, 2013
<http://theappletizer.wordpress.com/2013/10/11/breathtaking-borocay-henna-tattoos/> (accessed October 18, 2013)

One of the simple activities you can do in Borocay is to get a henna tattoo. It's a nice activity during the afternoon especially if the heat is unbearable and you would just prefer to lounge in a chair, sip a shake, while you watch passersby. There are lots of henna tattoo artists along the beach and the price of each tattoo depends on its size and design. Usually, the price starts from P75. It also dries up after 30 minutes so you don't have to worry if it gets wet afterwards.

⁹⁴⁴ bwaters23. Pattaya 6. Uploaded to *Flicker* September 3, 2010.
<http://www.flickr.com/photos/bwaters23/4965673578/> (accessed October 18, 2013)

⁹⁴⁵ parraboy. Comment, "Re: Any tips on how to remove Bali Henna Tattoos?" posted to *TripAdvisor Forums*, April 9, 2010 http://www.tripadvisor.com.au/ShowTopic-g297697-i9792-k3487227-Any_tips_on_how_to_remove_Bali_Henna_Tattoos-Kuta_Bali.html (accessed October 21, 2013)

Oh dear,

We have just come back from 2 weeks at Bali with our kids. I am very particular with my research before we go overseas and I did the same this time, made sure we had vaccinations, didn't have ice, only bottled water even at resort at Nusa Dua, wouldn't let kids fall off the banana boat ride as the water looked dirty yes my husband thought I had gone a bit crazy.

I am now sitting here feeling sick in the stomach and guilty, while my daughter was having her hair braided at The Bali Collection (yes I even worried about hair lice..) my husband took our 5 yr old for a walk to fill in time and came back with a "henna tattoo", as someone else said a spur of the moment thing that we had never thought to read up on and well now we have and am shocked. Approx 2 weeks after the tattoo which has now worn off he is left with the red imprint of the Batman tattoo, luckily there is no blisters and not itchy but have taken him to our doctor and he is on a cortisone cream which has started improving now, I hope for him it doesn't scar as people say, as my doctor said it looks like he has been branded with the tattoo. As careful as I felt I was unfortunately I have learnt a lesson, I just wish there was more publicity out there about this.....

⁹⁴⁶ Ibid.

I already wrote about this on my other blog but for the sake of more viewership, I'm writing about a not so good experience with black henna tattoo I got in Boracay.

Okay to be fair, I haven't got the name of the henna tattoo booth but it is located at Station 2 between Deparis Hotel (where we stayed) and Boracay Regency. And several people also got henna tattoos and didn't get this allergic reaction. I am posting this as a warning, to think twice about getting one.

I tried henna tattoo several times, the brown one and didn't get any allergic reaction at all. The one I got in Boracay was a black henna and it was like an ink (the brown one is like a paste). I was quite happy with the design and got a really nice bargain for 150 pesos.

⁹⁴⁷ Yuuki posted "Beware of Black Henna Tattoo in Boracay" to *About Me*. April, 2012

<http://www.itsnotalwaysaboutme.com/2012/04/beware-black-henna-tattoo-boracay.html> (accessed October 18, 2013)

⁹⁴⁸ Ibid

When in Boracay, you must try everything available and we just did that. One of the most available activity (can be seen in every nook and corner) is henna tattooing or if you want a permanent one.

But we just went for the henna tattoo. We went out quite early one of the days we were at Bora and looked for the open henna tattoo booth (at 7 am). We bargained at the price and got 100-150 pesos depending on the design. We are quite satisfied with the final outcome.

After a few days it became itchy with small rashes, but I just shrug it off. I had my henna tattoo on my whole right arm and since I'm medyo balbon so it's not noticeable.

⁹⁴⁹ "Allergy-free Boracay!" boracay volunteers: health and sustainability advocate

<http://boracayvolunteers.wordpress.com/2011/10/21/allergy-free-boracay/> (accessed October 18, 2013)

Allergy-free Boracay!

October 21, 2011 · by boracayvolunteers · in Health Center, Health Clinic, Health seeking behaviour, Henna Tattoo, Malay Municipal Health Office, Premier tourist destination, Sustainability, sustainable sanitation. ·

Dangers of BLACK HENNA

Henna skin tattoo is one of the many attractions for tourists in Boracay Island. Skin artists all over the island showcase their henna tattoo services like pancakes; one can assume they are not well regulated by ordinance/s.

What's with henna tattoo so enticing? Aside from being a substitute to permanent tattoo, you can always change the design as it suits your mood, sentiments, and other relevance to your taste as it only last for weeks.

Henna types

There are products known as (1) neutral henna and (2) black henna. Neutral henna poses limited health risks and it is not black but instead has a red hue. Black henna (no such thing as black henna, it's mostly

black dye), the one used for dying of hair, contains PPD (para-phenylenediamine). Black dye is widely used in dying hairs; it's only in our ingenuity that we augment its use to skin artistry. The health risks involved in black dye (with PPD) includes severe allergic reactions, with blistering, intense itching, permanent scarring, and permanent chemical sensitivities. Henna with PPD can cause lifelong health deformities including liver toxicity and cancers. In the United States, FDA has not approved henna for skin application.

What the law and enforcement does

Skin artists are required by the Municipal Health Office (MHO) to undergo biennial medical examination to give the artists the Health Card to operate and it's just one of their many requirements in securing their business permit. They are aware that the use of black dye in henna is banned. Ask your artist if they have that health card to know if they are operating legitimately. Enforcement of the ordinances is executed with regular monitoring of the MHO and the Malay Auxiliary Police (MAP).

Henna and You

Know your body, if you have history of ANY allergic reactions, never opt for those attractive henna skin art, especially with black dye. Reactions may happen abruptly or it may even take years to show. Anyone who has itching and blistering reaction upon henna tattooing, inform the artist, stop the tattooing and go to the nearest doctor for help! Take care of your skin and your health's future.

Know your artist, if you are still are interested in getting that henna tattoo, don't hesitate to ask the artist if it's neutral henna. Best if you can check it out yourself, simply look at the dye and see if it's "too black" for the traditional "reddish" henna.(If the mixture being used for the tattoo is a green color or brownish-green, it is probably safe. It should smell similar to hay, spinach or peas. If using essential oils, the mixture may smell like pine or tea tree oil.) Ask the artist what ingredients are used in the henna tattoo. A reputable tattoo artist will be able to tell you the exact ingredients (henna, sugar, lemon juice, and essential oils). If the artist doesn't know the ingredients or mentions unfamiliar ingredients, find another artist. Artists should also know that henna is not allowed for children.

Another question to ask a tattoo artist to determine if you are receiving an authentic henna tattoo is to ask what color the tattoo will be when it's finished. If the answer is black, PPD is probably an active ingredient in their tattoos. If the tattoo artist says the tattoo will eventually darken to red or a dark brown, but not black, it is probably authentic henna.

All resorts will give you a warning that henna stains on their linens/sheets may cost you some fees. Henna doesn't dry up easily and will definitely stain those white linens in your hotel room so better be prepared for the extra fees!

The local ordinance adopted from the Code on Sanitation of the Philippines P.D. 856

MUNICIPAL ORDINANCE NO. 225, s. 2005, "AN ORDINANCE REGULATING THE PRACTICE OF TATTOOING WITHIN THE JURISDICTION OF LGU-MALAY."

SECTION 1. – Rationale. The trade of tattooing in Boracay becomes part of the tourism business which a number of local and foreign tourists patronize. This however, if not done properly, may harm customers hence this regulation.

SECTION 2. – Definition of Terms:

Temporary Skin Art – means staining the skin by using henna, glitters, stickers and body painting removable after one [1] week.

Real Skin Art – means tattoo, a permanent art deep in the skin by using single use needles by pricking the skin to push the ink inside.

Body Piercing Skin Art – puncturing or penetrating the skin with single-use sterile needles and the insertion of sterile surgical steel jewelry.

SECTION 3. – Regulatory Policies. It shall be mandatory for all tattoo/skin artists to observe the following regulatory policies:

a) Only tattoo/skin artists who are LGU-Malay registered and issued a Mayor’s Permit or license to render skin art/tattooing service may be permitted to exercise the same;

b) Securing of a health certificate from LGU-Malay – Municipal Health Office is a pre-requisite to the issuance of a Mayor’s Permit or License;

c) Tattooing must be performed in permanent post or shop. Mobile and/or home service is strictly prohibited;

d) No skin art/tattooing service shop shall be permitted to operate without an MHO issued certification that the same has passed MHO standards;

e) Tattoo/skin artist must wear proper identification card while rendering service and display of Mayor’s Permit and MHO Certification must be made at a conspicuous place in the shop or permanent post;

f) Recycling of tattoo needle is strictly prohibited hence disposable needles shall be used;

g) Paraphernalia and/or utensils used in tattooing must be sterilized hence use of autoclave machine is mandatory;

h) Chemicals, such as tattoo paints, shall pass laboratory test conducted by Municipal Health Office – LGU Malay;

i) The use of Black Dye or para-phenylenediamine (PPD) is strictly prohibited and posting warning sign on its dangers in a conspicuous place in the shop or a permanent post is mandatory; Use of pure Henna is mandatory.

j) Unless with a written parental consent, no person below fifteen [15] years of age shall be administered a permanent tattoo.

k) Payment of appropriate LGU-Malay fees and charges upon submission of agreement/lot owner.

SECTION 4. – Mayor’s Permit Fee. Payment of Mayor’s Permit Fee in the amount of FIVE HUNDRED PESOS (P500.00) shall be made to the Municipal Treasurer’s Office is a pre-requisite for issuance of license or permit to any tattoo/henna artist applicant.

SECTION 5. – Penalties. Any person who violates pertinent provision of this ordinance shall suffer the following fines and penalties:

For violating Section 2 paragraph (a) – a fine of FIVE HUNDRED PESOS (P500.00) for the first offense, ONE THOUSAND FIVE HUNDRED PESOS (P1,500.00) for the second and subsequent offenses and cessation of tattooing practice on both cases.

For violating other provision of this ordinance – a fine of ONE THOUSAND PESOS (P1,000.00) for the first offense, TWO THOUSAND FIVE HUNDRED PESOS (P2,500.00) for the second and subsequent offenses and cancellation of Mayor’s Permit to engage in the trade of tattooing within the jurisdiction of

LGU Malay and imprisonment of thirty (30) days but not less than ten (10) days or both upon discretion of the court.

SECTION 6. – Amendments. All ordinances, rules and regulations, or parts thereof, provisions of which are in conflict with, or contrary to, the provisions of this ordinance are hereby repealed, amended, or modified accordingly.

SECTION 7. Date of Effectivity. This ordinance shall take effect upon its approval and proper publication.

ENACTED. JANUARY 19, 2005.

APPROVED. APRIL 21, 2005.

APPROVED. SP RESOLUTION NO. 05-224

⁹⁵⁰ Matulich, J., and Sullivan, J. 2005. "A temporary henna tattoo causing hair and clothing dye allergy." *Contact Dermatitis (01051873)* 53, no. 1: 33-36. *Academic Search Complete*, EBSCOhost (accessed December 18, 2011).

⁹⁵¹ Hammockman, comment, "Todays West..." posted to *Bali Travel Forum* June 23, 2009
<http://www.balitravelforum.com/archives/200906/23764.html> (accessed October 19, 2013)

⁹⁵² Glanmiregirl. Comment, "watch out for henna tattoos" posted to *Punta Cana Forum*, January 25, 2008,
http://www.tripadvisor.com.sg/ShowTopic-g147293-i28-k958641-o20-Watch_out_for_henna_tattoos-Punta_Cana_La_Altagracia_Province_Dominican_Republic.html (accessed October 21, 2013)

last year on the plane I heard a woman and her daughter talking about getting one. There was a whole group of young girls with them that were intending on getting them. I didn't sit by them on the way home...I wonder how they made out?? You have to be so careful now anywhere you are. You never know what will harm you or not anymore.

"I think that's what bothers me the most... is that it is most likely to be children getting them. I mostly saw kids looking at the designs etc..."

⁹⁵³ Julee. Comment "JBR take 2" posted to *Bali Travel Forum* April 19, 2007

<http://www.balitravelforum.com/archives/200704/97988.html> (accessed October 19, 2013)

Also my 16 yo nagged at us for a henna tatoos. Six years ago he had a nasty reaction to one and ended up in the BIMC for a few days on a drip. He was certain it would be ok this time, so we let him go ahead with one but had to wait till the last day of our trip just in case. Well his arm is a mess. He is off to the Doctor's for the second visit tomorrow and we are dressing it daily. I think he has learned his lesson this time.

⁹⁵⁴ dondiedon. Comment, "tattoos ??????" posted to *Bali Travel Forum* January 28 2007.

<http://www.balitravelforum.com/archives/200701/62714.html> (accessed October 19, 2013)

We have just returned. My 3 kids all got a tattoo from the Dynasty guy.

The 2 girls are ok but my boys has turned into a bit infected mess. We are trying to clear it up with antibiotic cream. I ran into another family who got their tattoo at the same place and same problem. Not saying dont do it cause the kids love it but be careful.

⁹⁵⁵ Dasha. Comment "Thread: Henna Tattoo Warning" posted to *balipod.com* June 23, 2010 <http://balipod.com/bali-news-indonesia-news-f26/henna-tattoo-warning-t4646.html> (accessed October 19, 2013)

⁹⁵⁶ Solomon, Debra. "Stung by a Bali scorpion - FAMILY HOLIDAYS." *Weekend Australian*. August 11, 2007 Saturday . Date Accessed: 2013/08/30. www.lexisnexis.com/hottopics/lnacademic.

My son's intricate tattoo design choice of scorpions intertwined around his upper arm seems good value at the equivalent of \$7. After a lengthy application at our hotel, he walks into Kuta with his decorated arm propped on one hip, catwalk-style, as he waits for the henna to dry.

Feeling pretty tough, sporting a fearsome tat befitting a jungle warrior, he is heartbroken to find next morning that the whole thing has almost faded. Once again, he is just another skinny 11-year-old kid in a \$4 pair of knock-off designer boardies.

⁹⁵⁷ bike_packer, comment "Have a Henna Tattoo" posted to *Tattoos, Boracay Island*, May 23, 2006 http://www.virtualtourist.com/travel/Asia/Philippines/Province_of_Aklan/Boracay_Island-1407255/Things_To_Do-Boracay_Island-Tattoos-BR-1.html (accessed October 19, 2013)

⁹⁵⁸ "Temporary black henna tattoos in Cancun?" posted to *Cancun Tripadvisor Forum*, Mar 29, 2005 http://www.tripadvisor.com/ShowTopic-g150807-i8-k102241-Temporary_black_henna_tattoos_in_Cancun-Cancun_Yucatan_Peninsula.html (accessed October 21, 2013)

Does anyone know if and where you can get the temporary black henna tattoos done in Cancun? I am thinking of getting a real tribal armband but want to do the henna one first to see if I will want one permanently! Thanks!

Everywhere. My husband got a henna tatoo for \$10 in the pedestrian mall across from The City, but it wasn't well done, it's very blotchy. They also did it at the hotel and every market.

Be careful, though. "Black" henna is supposed to contain really bad chemicals that can scar your skin. I asked the guy who did my husband's and he told me it was black, so I told him he wasn't getting it done. Then the guy showed me one on himself, and it looked red to me, so I caved. On my husband, it was more of a purple colour, so I was really nervous. But it's been a couple of weeks and it's fading without causing any reactions.

Anyway, don't let them do real black henna, it should be reddish brown colour if it's natural.

yes they are everywhere

guys stroll the beaches during the day offering them

... pure henna rarely causes any difficulty on the unbroken skin of a healthy adult.

Black henna is NEVER 100% pure henna, and is often NOT SAFE!

Pure, traditional red-brown henna is safe!

if it's red, go ahead Fred

if it's black, no thanks Jack

Last year my husband and I both got the henna tattoos just for laughs. Mine was no problem and faded away after about 10 days. His, however was pretty bad. It itched and ate into his skin. To this day he has a permanent scar where his tattoo was. He's just glad he didn't get a naked lady, since he is a minister. So be VERY careful!

⁹⁵⁹ A TripAdvisor Member. Comment, "Good, but stay away from "Black Henna Temp Tattoos"" on *Cozumel Trip Advisor Forum*, January 9, 2005. http://www.tripadvisor.com/ShowUserReviews-g150809-d1191402-r2991531-Allegro_Cozumel-Cozumel_Yucatan_Peninsula.html (accessed October 21, 2013)

DO NOT GET A "Henna Tattoo"!!! The advertising listed that it would last 2 weeks. Turns out that 45% of the population is allergic to the black hair dye (PPD) that is added to the "henna", I am one of them. One my last visit to the dermatologist, he told me it most likely will not leave a permanent scar but that it would hang around for 10-12 months. It is/was EXTREMELY PAINFUL! Do not take a chance and definitely, do not allow your children to get one. This is true at any resort, not just the Allegro.

⁹⁶⁰ Bittenbytravelbug. Comment, "Black Henna Tattoos," posted to *Dominican Republic Trip Advisor Forum*, Mar 21, 2006 http://www.tripadvisor.com/ShowTopic-g147288-i27-k522830-Black_Henna_Tattoos-Dominican_Republic.html (accessed October 21, 2013)

Recently returned from Playa Naco in Puerto Plata, where my boys and I had a lovely time.

One (not so small) glitch - Black Henna Tattoos.

Do not, I repeat DO NOT get yourself a Black Henna Tattoo (as I did).

They put some nasty stuff in there to make it really black (phenylenediamine for one) that has caused serious scarring and allergic reactions in many people (including myself - still watching my "tattoo" scar from February fade - lucky it doesn't look like it will be permanent).

Here are some web sites:

www.hennapage.com/henna/ppd/gotodoctor.html

www.expat.or.id/medical/blackhennareactions.html

I have advised my local office of Go Travel Direct of this hazard and they have apparently now added a briefing on this to their first day orientation sessions. This posting is for others, like myself, who are used to being by-and-large protected here in Canada and take it for granted that this blanket of protection will travel with us. Not always!

Caveat emptor (let the buyer beware)

⁹⁶¹ cameraguy. Comment, "Black Henna Tattoo's Warning" posted to *Sharm El Sheikh Trip Advisor Forum*, Oct 07, 2006 http://www.tripadvisor.com/ShowTopic-g297555-i9225-k822391-Black_Henna_Tattoo_s_Warning-Sharm_El_Sheikh_South_Sinai_Red_Sea_and_Sinai.html (accessed October 21, 2013)

Just a word of Warning. I was in Sharm in September and got a lovely tattoo on my leg from one of the guy's plying there trade around the hotel.

I'm posting this notice to warn people that after the tattoo has faded you may be, like me, left with blisters or scars because of a chemical in the black henna called PPD these can last a lifetime. I have found out that this is a carcinogen and is banned in the USA. please be careful about these tattoo's.

For more information please do a search on black henna in ASK or GOOGLE. It will not take long before you find some rather real warnings from UCLA and other organisations.

⁹⁶² Wutz. Comment, "watch out for henna tattoos" *Punta Cana Trip Advisor Forum*. 18 January 2007

http://www.tripadvisor.com.sg/ShowTopic-g147293-i28-k958641-Watch_out_for_henna_tattoos-Punta_Cana_La_Altagracia_Province_Dominican_Republic.html (accessed October 21, 2013)

⁹⁶³ Lizz. Comment, "watch out for henna tattoos," posted to *Punta Cana Trip Advisor Forum*, 18 January 2007,

http://www.tripadvisor.com.sg/ShowTopic-g147293-i28-k958641-Watch_out_for_henna_tattoos-Punta_Cana_La_Altagracia_Province_Dominican_Republic.html (accessed October 21, 2013)

Just a very important FYI: I was in the DR at the Iberostar Bavaro Suites with my family in December where my children had henna tattoos put on their arms. 2 weeks after getting it, one of my sons developed a SEVERE reaction. ... It is now 4 weeks later and my son is covered from his head to his toes in painful itchy blister like welts. The tattoo site on his arm although originally raised, scabby, extraordinarily inflamed, is just now fading. It could permanently scar him. Had we known this, we would have never ever gotten him the tattoo. Because it was done on the resort property, we assumed it was safe. Please think twice before doing this. It is not something to be taken lightly.

... This is really a problem and I have been trying to get in touch with Iberostar to encourage them to take the tattoo stand off of their premises. I'm doubtful they will do so, but it will give me peace of mind.

⁹⁶⁴ Glanmiregirl. Comment, "watch out for henna tattoos," posted to *Punta Cana Trip Advisor Forum*, 25 January

2008. http://www.tripadvisor.com.sg/ShowTopic-g147293-i28-k958641-o20-Watch_out_for_henna_tattoos-Punta_Cana_La_Altagracia_Province_Dominican_Republic.html (accessed October 21, 2013)

⁹⁶⁵ Ibid

⁹⁶⁶ Jamie. Comment, "Black Henna Nightmare" posted to blog, December 28, 2005

http://www.fhlostoncreative.com/elblog/archives/2005/12/black_henna_nig.html (accessed October 23, 2013)

Twelve days after we got them (yesterday) my 5 year old little boy developed an unbelievable rash on the tattooed area. The ink/henna had almost entirely faded, but now in its place was a raised, welted, blistering

mess in the exact shape of the tattoo. It feels like he has been branded with a hot iron. It was itchy and painful for him. To see a picture of his arm you can click [here](#), but be warned that it is kinda graphic if you are easily disturbed by such things. I want to post it because I really feel like I want to try to do something to prevent this from happening to others, although I realize my dinky blog is not exactly the best place to achieve that.

⁹⁶⁷ Ibid

I want to blog about this, but it is hard to just report about it without going off on a profane tirade and getting very agitated. But I decided that I am going to try.

However, it is very upsetting to learn that this has been happening to people for years yet no one in any position of relevance is putting out any sort of warning about it. I wrote to Carnival already. It is seriously disturbing to me that they can spend tons of time and resources on educating their guests on how to avoid the perils of fake diamond vendors, however they do not see the need to let their guests know about something that could possibly kill them. The guests from the ship are just as likely to go into the jewelry stores as they are to go to the tattoo places. Everything is right there when you get off the ship.

Not that I am all hellbent on blaming them or anything - I am not holding them responsible for what happened, it is just that I've already been on the phone with them and they seem less than concerned about doing what they can to warn future guests.

⁹⁶⁸ Wilfros. Comment, "Just back - ?? on "Black" Henna tattoos, HELP!" posted on *Your Ultimate Cruise Guide, Cruise Critic*, March 26, 2011. <http://boards.cruisecritic.com/showthread.php?t=1386649> (accessed October 24, 2013)

I don't want to alarm you or anyone else, but I have read that this is the latest manner in which kids in school are getting hooked on drugs. The place the drugs in the ink which is then absorbed into the blood.

It is not worth getting mad about, it is too late for that, what you need to do now is get it corrected.

⁹⁶⁹ Shifman, L., Thelwal, M. 2009. "Assessing global diffusion with Web memetics: The spread and evolution of a popular joke." *Journal of the American Society for Information Science and Technology* Volume 60, Issue 12, pages 2567-2576

⁹⁷⁰ Farrow, C. "Hair dye and henna tattoo exposure." *Emergency Nurse* 10, no. 3 (June 2002): 19-23. CINAHL Plus with Full Text, EBSCOhost (accessed October 30, 2013).

⁹⁷¹ Almeida, PJ., et al. 2012. "Quantification of p-phenylenediamine and 2-hydroxy-1,4-naphthoquinone in henna tattoos." *Contact Dermatitis* (01051873), v. 66 issue 1, 2012, p. 33-7.

⁹⁷² Brancaccio, RR., et al. "Identification and quantification of para-phenylenediamine in a temporary black henna tattoo." *American Journal of Contact Dermatitis*, v. 13 issue 1, 2002, p. 15-8.

⁹⁷³ Farrow, C. "Hair dye and henna tattoo exposure." *Emergency Nurse* 10, no. 3 (June 2002): 19-23. CINAHL Plus with Full Text, EBSCOhost (accessed October 30, 2013).

⁹⁷⁴ Kligman, AM. "The identification of contact allergens by human assay. 3. The maximization test: a procedure for screening and rating contact sensitizers." *Journal of Investigative Dermatology*, v. 47 issue 5, 1966, p. 393-409.

⁹⁷⁵ Natural henna set – Dogul Kina Seti Brand: Gökçehan, 2010 <http://unsafeproducts.eu/2010/11/26/natural-henna-set-dogul-kina-seti/> (accessed October 28, 2013)

Danger

Chemical

The product poses a chemical risk because the black powder contains 29.9% p-Phenylenediamine (maximum permissible amount: 6%). Because of its p-phenylenediamine content, the product can, in the form in which it is prepared and under the proposed conditions of use (without an oxidising agent), cause sensitisation (allergisation).

The product does not comply with the Directive 76/768/EEC.
Measures

Voluntary recall from consumers by the importer.
Reporting country

Germany

⁹⁷⁶ Cronin, E. 1979. "Immediate-type hypersensitivity to henna." *Contact Dermatitis* 5, no. 3: 198-199. *MEDLINE Complete*, EBSCOhost (accessed October 26, 2013).

⁹⁷⁷ Pasricha, J S, R Gupta, and S Panjwani. 1980. "Contact dermatitis to henna (Lawsonia)." *Contact Dermatitis* 6, no. 4: 288-289. *MEDLINE Complete*, EBSCOhost (accessed October 26, 2013).

⁹⁷⁸ Gupta, B N, A K Mathur, C Agarwal, and A Singh. 1986. "Contact sensitivity to henna." *Contact Dermatitis* 15, no. 5: 303-304. *MEDLINE with Full Text*, EBSCOhost (accessed April 7, 2013)

⁹⁷⁹ Nigam, P K, and A K Saxena. 1988. "Allergic contact dermatitis from henna." *Contact Dermatitis* 18, no. 1: 55-56. *MEDLINE with Full Text*, EBSCOhost (accessed April 7, 2013).

⁹⁸⁰ Pasricha, J S, R Gupta, and S Panjwani. 1980. "Contact dermatitis to henna (Lawsonia)." *Contact Dermatitis* 6, no. 4: 288-289. *MEDLINE Complete*, EBSCOhost (accessed October 26, 2013).

⁹⁸¹ Gupta B, Mathur A, Agarwal C, Singh A. Contact sensitivity to henna. *Contact Dermatitis* 1986;15:303-304

⁹⁸² Sir Hashim, M., et al. "Poisoning from henna dye and para-phenylenediamine mixtures in children in Khartoum." *Annals of Tropical Paediatrics: International Child Health*, v. 12 issue 1, 1992, p. 3-6.

Poisoning by a mixture of henna dye and para-phenylenediamine dyes led to the hospitalization of 31 Sudanese children between 1984 and 1989. There was a characteristic clinical presentation. All children presented with an acute and severe angioneurotic oedema and 15 of the cases required emergency tracheostomy for respiratory obstruction. Acute renal failure occurred in five children who recovered after peritoneal dialysis. Mortality was high, all 13 deaths occurring within 24 hours of presentation. Hypotensive shock gave a poor prognosis. It is possible that similar cases may be occurring unrecognized where henna is traditionally used. A programme of public education and restriction of para-phenylenediamine is urgently required in The Sudan and other affected nations. Ingestion was accidental in 12 children, deliberate in 10 and homicidal in three cases. Cutaneous absorption was likely in the remaining six.

⁹⁸³ Abdulla, Kamil A and Neil McD Davidson. 1996. A woman who collapsed after painting her soles. *The Lancet* 348, no. 9028:658.

In December, 1993, a 40-year-old Saudi Arabian woman collapsed. On this occasion, she used a henna hair-dye mixture prepared by a neighbour, who told her that it was a special preparation, but it proved impossible to obtain exact details of the constituents. She recovered fully and went home 2 days later. Henna has been used for centuries by women throughout Africa and Asia to beautify their hair and hands. It is applied to hands and feet using an icing bag or syringe to trace intricate patterns. Sometimes a second dye, para-phenylenediamine (pPD, "para" in the trade), is added to henna to speed up dyeing, and to improve pattern definition. In some countries, such as the Sudan, pPD is readily available in local markets, but ingestion produces such severe toxic effects² (angio-oedema, respiratory distress, rhabdomyolysis, and renal failure) that it is commonly used in attempted suicide. pPD is banned in some countries, and its concentration in hair dyes is controlled in others, including Saudi Arabia. Although there is no proof that pPD caused this patient's near-fatal pulmonary oedema, the circumstantial evidence is strong, including the refusal of the neighbour to give full details of the henna mixture, and the acute presentation with one hand painted and the other not. The patient had no abrasions on her skin, but hair-dye ingredients can penetrate intact skin and cause systemic toxicity. Many expatriates in Saudi Arabia will have previously used pPD at home, and some probably bring it in from time to time (as powder or as black stony lumps).

⁹⁸⁴ Wakelin, S H, D Creamer, R J Rycroft, I R White, and J P McFadden. 1998. "Contact dermatitis from paraphenylenediamine used as a skin paint." *Contact Dermatitis* 39, no. 2: 92-93. *MEDLINE Complete*, EBSCOhost (accessed October 26, 2013).

⁹⁸⁵ Gallo R., Ghigliotti G., Cozzani E., Balestrero, S. 1999. "Contact Dermatitis from Para-pheylenediamine Used as a Skin Paint: a Further Case" *Contact Dermatitis* 1999: 40:57

⁹⁸⁶ O'Brien TJ, McColl CM. 1999, "Unusual reactions to Paint-On Tattoos" *Australasian Journal of Dermatology* 1999 40: 120

Two weeks before he presented, he had a wash-off tattoo applied in Bali. The area treated had developed a weeping red and raised reaction in the exact pattern of the tattoo. He thought that sunlight made this worse.

The cause and mechanism of this reaction are not understood. It may represent an allergic contact dermatitis or possibly a phototoxic reaction to the applied tattoo. The offending agent has not been identified. Some temporary tattoos contain henna.

⁹⁸⁷ Nixon, R, and D Orchard. 1999. "Positive para-phenylene diamine (PPD) reactions following paint-on tattoos." *The Australasian Journal Of Dermatology* 40, no. 2: 120. *MEDLINE Complete*, EBSCOhost (accessed October 26, 2013).

We are aware of four patients in Melbourne who have developed a skin reaction to a 'temporary tattoo' applied in Bali. These tattoos are performed in many different locations, including restaurants, and clients are told that their tattoos will resolve in 2 weeks' time. A 12-year-old boy, who was the only one of five children tattooed on a school trip to Bali to develop a skin reaction, was patch tested at Monash Medical Centre recently. He experienced severe dermatitis spreading away from the site of the tattoo. He developed a very severe 3+ reaction to para-phenylene diamine (PPD) and a number of cross-reactions to related chemicals, including 3+ to aminoazobenzene and 2+ reaction to disperse yellow 3 and 1+ to 4-aminophenol, disperse orange 1, black rubber mix, and diaminotoluenesulfate. The patients reported seeing the PPD being mixed with a solvent, such as either petrol or kerosene, which is apparently used to aid skin penetration. The mixture is then painted onto the skin. This is clearly a very effective form of sensitization, and the subsequent propensity to develop allergic contact dermatitis to PPD is of great relevance to those with relevant occupational exposure to PPD, such as hairdressers. Arrangements have been made to patch test the other patients, and we will present a more detailed report soon.

⁹⁸⁸ Lewin, P K. "Temporary henna tattoo with permanent scarification." *CMAJ*. 1999 February 9; 160(3): 310.

⁹⁸⁹ Cronin, E. 1979. "Immediate-type hypersensitivity to henna." *Contact Dermatitis* 5, no. 3: 198-199. *MEDLINE Complete*, EBSCOhost (accessed October 26, 2013).

⁹⁹⁰ Lestringant, G G, A Bener, and P M Frossard. 1999. "Cutaneous reactions to henna and associated additives." *The British Journal of Dermatology* 141, no. 3: 598-600. *MEDLINE with Full Text*, EBSCOhost (accessed April 7, 2013).

In the past 10 years at Tawam Hospital, in Al Ain, UAE, we observed 14 cases of skin reactions following the decoration of hands and feet with henna. All patients, ranging from 18 to 52 years of age, were female. Six patients, already treated with potent topical corticosteroids, presented with fading reactions and declined investigations. They were not known to be allergic to plain henna. Three patients had developed a reaction when using a commercially available scented oily additive, 'Mahalabiya' (The Mercantile Essential Oil Co., India). Three other patients, including one with lichenoid lesions had developed reactions to mixtures of henna used in henna salons. They were positive to PPD.

⁹⁹¹ Ibid

⁹⁹² Michelle. Comment, "Tattoo over Imprint left from a black Henna design??" posted to The Henna Page Discussion Forum, February 22, 2000.

<http://web.archive.org/web/20010516233146/http://www.hennapage.com/henna/discuss/messages/15435.html>

(accessed October 26, 2013)

⁹⁹³ Julie Laurin. Comment, PPD Allergy: why you need to know about it" posted to blog at JulieLaurin.com 2010.

<http://julielaurin.com/?p=739> (accessed February 20, 2010)

It was only a few years later when I ended up seeing a specialist for an unrelated issue. I had just returned from Vancouver with red bumps all over my arms. I had gone through five doctors in two different cities who went from "oh, looks like an Asian virus" to "probably bed bugs" to "gosh, I have no idea what that is!". The specialist ruled it out as probably being bed bugs (and that's apparently more common than you think, even in five star hotels!). Out of curiosity, I asked her about my reaction to henna tattoos. And she said, "you're allergic to PPD". She sent me off with an info sheet.

⁹⁹⁴ Lyon, M. J, Shaw, J. C., Linder, J. L. "Allergic Contact Dermatitis Reaction to Henna" *VIGNETTES Archives of Dermatology*. Vol. 136 No. 1, January 2000. <http://web.archive.org/web/20011030080335/http://archderm.ama-assn.org/issues/v136n1/ffull/dlt0100-6.html> (accessed October 26, 2013)

A healthy 30-year-old woman obtained a henna "tattoo" from a street vendor on a California beach. Ten days later she noted pruritus followed by multiple small papules overlying the pattern encircling her left arm. Several days later, the design appeared erythematous and raised, sparing the unpainted areas (Figure 1). Treatment with topical diflorasone diacetate resulted in gradual improvement with resolution in several weeks. The patient denied prior exposure to henna. She chose not to have a skin biopsy and patch testing to henna. However, the time course and clinical morphology of the dermatitis were typical of a type IV hypersensitivity reaction to henna.

Henna, decoratively used in Islamic and Indian cultures, is a shrub found in North America and the Middle East. It is part of the family Lythraceae, which is best known as a source of natural dyes. The bark of *Lafoensia pacari* and the leaves of *Woodfordia fruticosa* yield a yellow and red dye, respectively. Henna (*Lawsonia inermis*) is the most famous of the Lythraceae family and imparts a red-brown color.¹ Henna leaves are ground into a powder and mixed with water to create a paste, which is applied to the skin directly from the tube in which it is packaged.

The use of henna has become increasingly popular in western cultures as a safe alternative to permanent tattoos. The painted henna tattoo can easily be obtained from a streetside artisan or a "do-it-yourself" kit and lasts approximately 3 weeks. Henna has been documented as a cause of contact dermatitis and type I hypersensitivity in India, but no cases have been documented in the United States.²⁻⁵ With the increased popularity and availability of henna, clinicians should be aware of this complication.

1. Kupicha FK. Lythraceae. In: Heywood V, ed. *Flowering Plants of the World*. New York, NY: Oxford University Press; 1993:156-157.

2. Gupta BN, Mathur AK, Agarwal C, Singh A. Contact sensitivity to henna. *Contact Dermatitis*. 1986;15:303-304. MEDLINE

3. Nigam PK, Saxena AK. Allergic contact dermatitis from henna. *Contact Dermatitis*. 1988;18:55-56. MEDLINE

4. Pasricha JS, Gupta R, Panjwani S. Contact dermatitis to henna (*Lawsonia*). *Contact Dermatitis*. 1980;6:288-289. MEDLINE

5. Wantke F, Gotz M, Jarisch R. Contact dermatitis due to henna, solvent red 1 and solvent red 3, a case report. *Contact Dermatitis*. 1992;27:346-347. MEDLINE

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- ⁹⁹⁵ Mohamed, Matheen and Rosemary Nixon. 2000. Severe allergic contact dermatitis induced by paraphenylenediamine in paint-on temporary 'tattoos'. *Australasian Journal of Dermatology* 41, no. 3:168-171.
- ⁹⁹⁶ Le Coz, CJ.; Lefebvre, C.; Keller, F.; Grosshans, E. "Allergic contact dermatitis caused by skin painting (pseudotattooing) with black henna, a mixture of henna and p-phenylenediamine and its derivatives." *Archives of Dermatology*, v. 136 issue 12, 2000, p. 1515-7.
- ⁹⁹⁷ Jappe, U, B M Hausen, and D Petzoldt. 2001. "Erythema-multiforme-like eruption and depigmentation following allergic contact dermatitis from a paint-on henna tattoo, due to para-phenylenediamine contact hypersensitivity." *Contact Dermatitis* 45, no. 4: 249-250. MEDLINE Complete, EBSCOhost (accessed October 28, 2013).
- ⁹⁹⁸ Onder, M., et al. "Temporary henna tattoo reactions in children." *International Journal of Dermatology*, v. 40 issue 9, 2001, p. 577-9.
- ⁹⁹⁹ Schultz, E.; Mahler, V. "Prolonged lichenoid reaction and cross-sensitivity to para-substituted amino-compounds due to temporary henna tattoo." *International Journal of Dermatology*, v. 41 issue 5, 2002, p. 301-3.
- ¹⁰⁰⁰ Chung, WH., et al. "Clinicopathologic features of skin reactions to temporary tattoos and analysis of possible causes." *Archives of Dermatology*, v. 138 issue 1, 2002, p. 88-92.
- ¹⁰⁰¹ Chung, WH.; Wang, CM.; Hong, HS. "Allergic contact dermatitis to temporary tattoos with positive para-phenylenediamine reactions: report of four cases." *International Journal of Dermatology*, v. 40 issue 12, 2001, p. 754-6.
- ¹⁰⁰² Brancaccio, RR., et al. "Identification and quantification of para-phenylenediamine in a temporary black henna tattoo." *American Journal of Contact Dermatitis*, v. 13 issue 1, 2002, p. 15-8.
- ¹⁰⁰³ Ibid
- ¹⁰⁰⁴ Sonnen, G. "Type IV hypersensitivity reaction to a temporary tattoo." *Proceedings (Baylor University. Medical Center)*, v. 20 issue 1, 2007, p. 36-8.
- ¹⁰⁰⁵ Ho, S. G. Y., et al. 2004. A new approach to patch testing patients with para-phenylenediamine allergy secondary to temporary black henna tattoos. *Contact Dermatitis* 51, no. 4:213-214.
- ¹⁰⁰⁶ Wang, PG.; Krynitsky, AJ. "Rapid determination of para-phenylenediamine by gas chromatography-mass spectrometry with selected ion monitoring in henna-containing cosmetic products." *Journal of Chromatography B*, v. 879 issue 20, 2011, p. 1795-801.

¹⁰⁰⁷ Almeida, Pablo J., et al. 2012. Quantification of p-phenylenediamine and 2-hydroxy-1,4-naphthoquinone in henna tattoos. *Contact Dermatitis* 66, no. 1:33-37.

¹⁰⁰⁸ Özkaya E, Yazganoglu KD, Arda A, Topkarci Z, Erçag E. "The "henna stone" myth." *Indian Journal of Dermatolgy Venereology Leprology* 2013;79:254-6

¹⁰⁰⁹ Pegas, JR., et al. "Allergic contact dermatitis to temporary tattoo by p-phenylenediamine." *Journal of Investigational Allergology and Clinical Immunology*, v. 12 issue 1, 2002, p. 62-4.

¹⁰¹⁰ Power, S.; Postlethwaite, RJ. "An unusual rash" *Archives of Disease in Childhood*, v. 87 issue 2, 2002, p. 134.

¹⁰¹¹ Di Landro, A.; Valsecchi, R.; Marchesi, L. "Allergic reaction with persistent hypopigmentation due to temporary tattooing with henna in a baby." *Contact Dermatitis (01051873)*, v. 52 issue 6, 2005, p. 338-9.

¹⁰¹² Jacob, SE.; Brod, BA. "Paraphenylenediamine in black henna tattoos: sensitization of toddlers indicates a clear need for legislative action." *The Journal of clinical and aesthetic dermatology*, v. 4 issue 12, 2011, p. 46-7.

¹⁰¹³ Baron, S.; Baxter, K.; Wilkinson, M. "Allergic contact dermatitis to henna tattoo." *Archives of Disease in Childhood*, v. 88 issue 9, 2003, p. 747.

This 9 year old boy had a henna tattoo of a Chinese dragon painted on his back while abroad on holiday. The tattoo colour faded over the subsequent week but the area became acutely erythematous, swollen, and blistered, and was painful and pruritic. Examination revealed an erythematous weepy dermatitis in the shape of a dragon on the boy's back with surrounding eczematous changes. He had had a henna tattoo the previous year with no ill effects. ... Holiday henna tattoos are becoming increasingly fashionable, so parents should be warned that the darker paints often contain PPD, a potent contact allergen.

¹⁰¹⁴ Neri, I.; Guareschi, E.; Savoia, F.; Patrizi, A. "Childhood allergic contact dermatitis from henna tattoo." *Pediatric Dermatology*, v. 19 issue 6, 2002, p. 503-5.

Several cases are reported in the literature of sensitization to para-phenylenediamine (PPD) contained in the henna tincture, but few of these are pediatric cases. We report two instances of allergic contact dermatitis due to temporary tattoos in children. In one case a patch test was positive for PPD. We suggest that the fashion of temporary henna tattoos in children is to be discouraged due to the serious consequences that a sensitization to PPD could have in their future.

¹⁰¹⁵ Redlick, F.; DeKoven, J. "Allergic contact dermatitis to paraphenylenediamine in hair dye after sensitization from black henna tattoos: a report of 6 cases." *Canadian Medical Association Journal*, v. 176 issue 4, 2007, p. 445-6.

A 17-year-old girl presented with a severe contact dermatitis of her scalp and face after having dyed her hair with a permanent oxidative hair dye. She denied previous use of oxidative hair dye. Eight months earlier she had a "temporary" henna tattoo applied on her shoulder by a transient artist in downtown Montreal and developed an acute, erythematous, edematous eruption that resolved with residual, prolonged hyperpigmentation. As henna tattooing is a lengthy and tedious procedure, para-phenylenediamine (PPD) may be added to the mixture to accelerate the process, to darken, and to give more precision to the design.

This short-lived fad can have longer-term sequelae than expected, ranging from postinflammatory hyperpigmentation of the tattoo site to permanent sensitization to PPD and related compounds.

¹⁰¹⁶ Martin, J. A., T. M. Hughes, and N. M. Stone. 2005. 'Black henna' tattoos: an occult source of natural rubber latex allergy? *Contact Dermatitis* 52, no. 3:145-146.

A 14-year-old girl presented with an acutely inflamed, exudative, eczematous eruption involving the entire scalp, posterior neck, ears and forehead associated with erythema and oedema of the left side of the face and peri-orbital region. Symptoms had started 2 days previously within hours of applying 2 permanent hair dyes at home: 1 light brown and 1 dark red-brown. This was the first occasion that she had dyed her hair. 3 years previously, the patient had a temporary 'black henna' tattoo applied to the right upper arm whilst on holiday in Spain.

¹⁰¹⁷ Ibid

A 15-year-old boy presented with facial redness after he had a permanent hair dye bleached. The next morning his whole face and neck were swollen. A year before,

he had a blistering reaction to a black henna tattoo. ... He developed respiratory difficulties and was admitted to intensive care for intubation and treated with intravenous steroids and antibiotics.¹⁰¹⁷

A 14-year-old girl presented with severe facial swelling and redness few hours after a hair dye. She had a reaction to henna tattoos 2 years earlier. She stayed 3 days in hospital for treatment with oral steroids.

¹⁰¹⁸ Sosted, Heidi, et al. 2006. Severe allergic hair dye reactions in 8 children. *Contact Dermatitis* 54, no. 2:87-91.

Temporary tattoos have become fashionable as also is dying hair at an increasingly younger age. This means that the risk profile of the population using hair dyes is changing, and producers of legal consumer products, such as hair dyes, will have to take this into consideration. While the primary reaction to temporary tattoos is a minor event in the medical context, these children may become severely ill from dying their hair.

One can only speculate on the future consequences of these excessive exposures to potent allergens starting at an early age and continuing in many cases intermittently for life. A re-evaluation of the risk assessment and risk management before marketing of hair dyes is required.

¹⁰¹⁹ "Growth of allergy cases leads to regulatory and market changes" Commission Directive 2009/134/EC of 28 October 2009 amending Council Directive 76/768/EEC concerning cosmetic products for the purposes of adapting Annex III thereto to technical progress. *Premium Beauty News* 2009 <http://www.premiumbeautynews.com/en/Growth-in-allergy-cases-leads-to.1411?checklang=1> (accessed October 31, 2013)

Following the advice of the Scientific Committee on Consumer Products, the European Commission recently amended the legislation applicable to cosmetic products in order to strengthen requirements for

labelling of hair dyes. The Commission intends to warn more clearly on the label of the dangers of developing allergic and sensitisation reactions when using hair dyes.

The new regulation [1], effective by the 1st of May 2010 at the latest, is replacing the current warning which reads "Can cause an allergic reaction" with the following, "Hair colorants can cause severe allergic reactions. ... Temporary "black henna" tattoos may increase your risk of allergy. ... Do not colour your hair if: ... you have experienced a reaction to a temporary "black henna" tattoo in the past."

¹⁰²⁰ Van den Keybus, C., M.-A. Morren, and A. Goossens. 2005. Walking difficulties due to an allergic reaction to a temporary tattoo. *Contact Dermatitis* 53, no. 3:180-181.

¹⁰²¹ Arroyo, MP. "Black henna tattoo reaction in a person with sulfonamide and benzocaine drug allergies." *Journal of the American Academy of Dermatology*, v. 48 issue 2, 2003, p. 301-2.

¹⁰²² Lasa, EM., et al. "[Henna tattooing in children: natural or temporary?]." *Anales del sistema sanitario de Navarra*, v. 30 issue 1, 2007, p. 131-4.

¹⁰²³ Boschnakow, A., et al. "[Temporary tattooing with henna induces contact allergy to textile dyes]." *Journal der Deutschen Dermatologischen Gesellschaft = Journal of the German Society of Dermatology : JDDG*, v. 1 issue 12, 2003, p. 962-4.

A woman developed widespread contact dermatitis after temporary tattooing with henna, caused by paraphenylenediamine (PPD) which had been added to the henna as an enhancer. The patient recovered after treatment; a week later an acute generalized rebound occurred after she wore dark clothing (black chador). Patch tests revealed type-IV allergy to PPD, along with multiple sensitisations to other textile dyes (disperse orange 3, para-aminoazobenzole, Bismark brown R). Temporary henna tattoos are not always harmless holiday souvenirs. The addition of color enhancers such as PPD into henna may lead to multiple contact allergies to other textile dyes.

¹⁰²⁴ Saunders, H.; O'Brien, T.; Nixon, R. "Textile dye allergic contact dermatitis following paraphenylenediamine sensitization from a temporary tattoo." *Australasian Journal of Dermatology*, v. 45 issue 4, 2004, p. 229-31.

¹⁰²⁵ Lim, SP.; Prais, L.; Foulds, IS. "Henna tattoos for children: a potential source of para-phenylenediamine and thiuram sensitization." *British Journal of Dermatology*, v. 151 issue 6, 2004, p. 1271.

¹⁰²⁶ Martin, JA.; Hughes, TM.; Stone, NM. "'Black henna' tattoos: an occult source of natural rubber latex allergy?." *Contact Dermatitis (01051873)*, v. 52 issue 3, 2005, p. 145-6.

We report the case of a 14 year old girl presenting with an acute allergic contact dermatitis to hair dyes. Some years previously she had a 'black henna' tattoo with prior application of a tacky transfer to the skin to outline the design followed some days later by an acute localised blistering reaction. Patch testing to an extended British Contact Dermatitis Society standard series showed relevant positive reactions to paraphenylenediamine (PPD) and thiuram mix, as well as to several of the azo disperse dyes. We went on to perform prick testing to natural rubber latex (NRL), showing a positive reaction to the commercial HEP

100 concentration. We propose that through the initial acute reaction caused by PPD in the 'black henna' our patient was not only sensitized to PPD, but also to thiuram and natural rubber latex which may have been present in the tacky transfer applied prior to 'tattooing.' We would add that temporary 'black henna' tattoos may have more important consequences than previously thought on patients' future health by sensitization to NRL.

¹⁰²⁷ Thiuram Mix – Patient Information. *T.R. U. E. Test. Thin-layer Rapid Use Epicutaneous Patch Test.*

www.truetest.com/PatientPDF/Thiuram-Mix-Patient-Info.pdf (accessed October 28, 2013)

¹⁰²⁸ Temesvá, et al. 2002. Fragrance sensitization caused by temporary henna tattoo. *Contact Dermatitis* 47, no. 4:240-240.

¹⁰²⁹ Korn666, Moderator Showbiz Pakistan, World Entertainment, Bollywood forums. Comment, “black henna -----
- harmful????????????? REALLY?????????????” posted to *GUPSHUP*, April 21st, 2010

<http://www.paklinks.com/gs/fashion-and-beauty/417886-black-or-dark-dark-henna.html> (accessed January 18, 2014)

¹⁰³⁰ Amanda Leigh Lichtenstein. Comment, “Piko in Paje – ancient Swahili lady lessons on pleasure and pain.”

posted to Contrary Blog. February 17, 2011 <http://blog.contrarymagazine.com/2011/02/piko-in-paje-%E2%80%93-ancient-swahili-lady-lessons-on-pleasure-and-pain/> (accessed October 31, 2013)

¹⁰³¹ Nawaf, AM.; Joshi, A.; Nour-Eldin, O. “Acute allergic contact dermatitis due to para-phenylenediamine after temporary henna painting.” *Journal of Dermatology*, v. 30 issue 11, 2003, p. 797-800.

Several cases of para-phenylenediamine (PPD) contaminated, temporary traditional/natural henna induced sensitization and acute allergic reaction have been reported, along with occasional serious long term and rare fatal consequences. We report here a 17-year-old girl with blisters over her hands of five-days duration that appeared within 72 hours of applying a temporary henna paint to her hands during a social occasion. Similar lesions were noted on her face. She had previously applied black henna only once, a year earlier without developing any lesions.

¹⁰³² Evans, CC.; Fleming, JD. “Images in clinical medicine. Allergic contact dermatitis from a henna tattoo.” *New England journal of medicine*, v. 359 issue 6, 2008, p. 627.

A 19-year-old otherwise healthy Kuwaiti woman presented 8 days after the brush application of a temporary henna tattoo while in Kuwait for a wedding. Burning and itching at the site of application began 6 days after the application, indicating that the reaction was more likely caused by an allergen than by an irritant; these symptoms were followed 1 day later by a vigorous blistering reaction. Examination revealed tense bullae without surrounding inflammation in a geometric pattern that strictly mirrored the sites of application.

¹⁰³³ Bentaleb, R.; Zouhair, K.; Benchikhi, H. “[A black henna tattoo can cause life-long allergy to paraphenylenediamine].” *Presse Medicale*, v. 37 issue 2 Pt 1, 2008, p. 244-5

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- ¹⁰³⁴ Mikkelsen, CS.; Sommerlund, M.; Farholt, S. “[Picture of the month: henna tattooing].” *Ugeskrift for Laeger*, v. 170 issue 26-32, 2008, p. 2349.
- ¹⁰³⁵ Su, et al. “[Allergic contact eczema caused by henna tattoo].” *Allergologia et Immunopathologia*, v. 30 issue 5, 2002, p. 292-4.
- ¹⁰³⁶ Hervella, M., et al. “[Reasons to advise against temporary henna tattoos].” *Anales del sistema sanitario de Navarra*, v. 28 issue 3, 2005, p. 403-7.
- ¹⁰³⁷ Boschnakow, A., et al. “[Temporary tattooing with henna induces contact allergy to textile dyes].” *Journal der Deutschen Dermatologischen Gesellschaft = Journal of the German Society of Dermatology : JDDG*, v. 1 issue 12, 2003, p. 962-4.
- ¹⁰³⁸ Holgert, H. “[Henna tattooing can be a life-long problem].” *Lakartidningen*, v. 106 issue 24-25, 2009, p. 1669.
- ¹⁰³⁹ Steinkjer, B.; Stangeland, KZ.; Mikkelsen, CS. “[Contact allergy to henna tattoos].” *Tidsskrift for den Norske laegeforening : tidsskrift for praktisk medicin, ny raekke*, v. 131 issue 6, 2011, p. 581-2.
- ¹⁰⁴⁰ Bj, et al. “[Allergy and skin infection after use of temporary henna tattoo--case report].” *Laeknabladid*, v. 95 issue 11, 2009
- ¹⁰⁴¹ van Zuuren, EJ.; Lavrijsen, AP. “[Allergic reactions and hypopigmentation due to temporary tattooing with henna].” *Nederlands Tijdschrift voor Geneeskunde*, v. 146 issue 28, 2002, p. 1332-5.
- ¹⁰⁴² Ram, et al. “[Allergic contact dermatitis to temporary henna tattoos].” *Actas Dermo-Sifiliograficas*, v. 98 issue 2, 2007, p. 91-5.
- ¹⁰⁴³ Sidwell, RU.; Francis, ND.; Basarab, T.; Morar, N. “Vesicular erythema multiforme-like reaction to para-phenylenediamine in a henna tattoo.” *Pediatric Dermatology*, v. 25 issue 2, 2008, p. 201-4.
- ¹⁰⁴⁴ Kluger, N.; Raison-Peyron, N.; Guillot, B. “[Temporary henna tattoos: Sometimes serious side effects].” *Presse Medicale*, v. 37 issue 7-8, 2008, p. 1138-42.
- ¹⁰⁴⁵ Mikkelsen, CS.; Liljefred, F.; Mikkelsen, DB. “[Erythema multiforme-like reaction to para-phenylenediamine].” *Ugeskrift for Laeger*, v. 173 issue 1, 2011, p. 51-2.
- ¹⁰⁴⁶ Jacob, SE., et al. “p-Phenylenediamine in black henna tattoos: a practice in need of policy in children.” *Archives of Pediatrics and Adolescent Medicine*, v. 162 issue 8, 2008, p. 790-2.
- ¹⁰⁴⁷ Jacob, SE.; Brod, BA. “Paraphenylenediamine in black henna tattoos: sensitization of toddlers indicates a clear need for legislative action.” *The Journal of clinical and aesthetic dermatology*, v. 4 issue 12, 2011, p. 46-7.

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- ¹⁰⁴⁸ Jasim, ZF.; Darling, JR.; Handley, JM. "Severe allergic contact dermatitis to paraphenylenediamine in hair dye following sensitization to black henna tattoos." *Contact Dermatitis* (01051873), v. 52 issue 2, 2005, p. 116-7.
- ¹⁰⁴⁹ Steve Manning, "Rehoboth places strict limits on henna tattoos." *The Associated Press State & Local Wire*. September 1, 2000 Date Accessed: 2013/04/14. www.lexisnexis.com/hottopics/lnacademic.
- ¹⁰⁵⁰ Amy S. Rosenberg, "N. Wildwood joins ban of henna tattoos; The town acted in response to complaints of rashes and burns. You can still legally buy a hermit crab, though.." *The Philadelphia Inquirer*. Date Accessed: 2013/04/14. www.lexisnexis.com/hottopics/lnacademic
- ¹⁰⁵¹ Steele Smith, "Henna Tattoos: The Dark Side." *Speak Out! Letters to the Editor* (May 8, 2001) *The LookOut* http://www.surfsantamonica.com/ssm_site/the_lookout/letters/Letters-2001/May_2001/05_08_2001_Henna_Tatoos_The_Dark_Side.htm (accessed August 9, 2013)
- ¹⁰⁵² "News briefs from Southern California." *The Associated Press State & Local Wire*. 1814 words. LexisNexis Academic. Web. Date Accessed: 2013/04/12.
- ¹⁰⁵³ Marcia Mattson. "Black henna tattoos can cause scarring Health department issues warning." *Florida Times-Union* (Jacksonville, FL). City Edition (August 20, 2003 Wednesday) LexisNexis Academic. Web. Date Accessed: 2013/04/13.
- ¹⁰⁵⁴ ElleCee. July 10, 2008. (uploaded to Flickr July 15, 2008) "I love him. With every ounce of my heart." *Florida Vay-Cay photostream* <http://www.flickr.com/photos/ptprincess/2672533380/in/photostream/> (Accessed January 19, 2012)
- ¹⁰⁵⁵ "MP WANTS BODY ART CRAZE TO BE REGULATED." *Birmingham Post*. (August 9, 2003 , Saturday) LexisNexis Academic. Web. Date Accessed: 2013/04/13.
- ¹⁰⁵⁶ "ADVISORY - Health Canada alerts Canadians not to use "black henna" temporary tattoo ink and paste containing PPD." *Canada NewsWire*. (August 11, 2003) Date Accessed: 2013/04/13. www.lexisnexis.com/hottopics/lnacademic.
- ¹⁰⁵⁷ "Health Canada blacklists henna ink ingredient." *Calgary Herald* (Alberta, Canada). (August 12, 2013) Date Accessed: 2013/04/13. www.lexisnexis.com/hottopics/lnacademic.
- ¹⁰⁵⁸ borocayvolunteers. Comment "Allergy-free Boracay!" posted to *Boracay Volunteers: health and sustainability advocate*. October 21, 2011 <http://borocayvolunteers.wordpress.com/2011/10/21/allergy-free-boracay/> (accessed November 2, 2013)

¹⁰⁵⁹ rodney. Comment "Allergy-free Boracay!" posted to *Boracay Volunteers: health and sustainability advocate*, October 22, 2011 <http://boracayvolunteers.wordpress.com/2011/10/21/allergy-free-boracay/> (accessed November 2, 2013)

¹⁰⁶⁰ Yoga Honey Bunn. Comment, "Temporary Tattoos and Henna/Mehndi" posted to *SteadyHealth.com*, January 24, 2007. http://www.steadyhealth.com/articles/Temporary_Tattoos_and_Henna_Mehndi_a36.html (accessed November 2, 2013)

¹⁰⁶¹ Foucault, M. 1969. *Archaeology of Knowledge*, 1969, trans. A. M. Sheridan Smith (London: Routledge, 2002)

¹⁰⁶² Blackmore, S. 2000. *The Meme Machine*. Oxford: Oxford University Press, USA

¹⁰⁶³ Schifman, L., Thelwal, M. 2009. "Assessing global diffusion with Web memetics: The spread and evolution of a popular joke." *Journal of the American Society for Information Science and Technology* Volume 60, Issue 12, pages 2567–2576

¹⁰⁶⁴ Paull, John. 2009. "Meme Maps: A Tool for Configuring Memes in Time and Space." *European Journal Of Scientific Research* 31, no. 1: 11-18. Academic Search Complete, EBSCOhost (accessed December 27, 2012).

¹⁰⁶⁵ Coscia, M., 2013. "Competition and Success in the Meme Pool: a Case Study on Quickmeme.com" Association for the Advancement of Artificial Intelligence

¹⁰⁶⁶ Blackmore, S. 2000. *The Meme Machine*. Oxford: Oxford University Press, USA

¹⁰⁶⁷ Blackmore, S. 1999. *The Meme Machine*. Oxford University Press. Oxford UK

¹⁰⁶⁸ Schmidt, Wolf-Peter, Robert Aunger, Yolande Coombes, Peninnah Mukiri Maina, Carol Nkatha Matiko, Adam Biran, and Val Curtis. 2009. "Determinants of handwashing practices in Kenya: the role of media exposure, poverty and infrastructure." *Tropical Medicine & International Health* 14, no. 12: 1534-1541. Academic Search Complete, EBSCOhost (accessed December 27, 2012).

¹⁰⁶⁹ Meyer, Dick (December 12, 2006). "The Truth of Truthiness". CBS News. Retrieved December 14, 2006.

Truthiness is a quality characterizing a "truth" that a person making an argument or assertion claims to know intuitively "from the gut" or because it "feels right" without regard to evidence, logic, intellectual examination, or facts.

¹⁰⁷⁰ Jeanblack. Comment "screamed at for confronting black henna booth" posted to *Open Henna Circle*. August 2, 2011 <http://hennatribe.org/viewtopic.php?p=112115&sid=c1d1a271f30d5c89bd0680dc638cf326> (accessed November 14, 2013)

Black henna in Canada? I think not! Now I was already in a super pissed mood because i was actually a vendor at this 3 day festival (i left after the first day because i have strep throat, the organizers put me in the most horrible location & didn't follow through with agreements). Already being in a bad mood, i wasn't able to pull off my usual play sweet & dumb to get info out of them - i just asked straight up if they are using PPD or jagua. He said jagua & asked why i was asking, i let him know & then he blew his top! He & his wife (both Indian) started screaming at me, pulling the typical "i'm Indian & your white, what do you know about henna B.S.) and when i try to explain that i am the local professional certified natural henna artist and just making sure that no one is having PPD applied, he just screamed more & they both started yelling for me to go away. It was terrible because there were quite a few people in the booth (and you could hear them 5 booths away) & i don't want to hurt my local reputation.

¹⁰⁷¹ "Black Henna Tattoo" posted to *Best Beauty Advice*. <http://bestbeautyadvice.com/?p=683> (accessed July 17, 2013)

I learned how to do them while visiting a beach town in Mexico. A local shop offered henna tattoos that were black instead of the traditional brown/red. Everyone in my party of 15+ got one. We loved it!

¹⁰⁷² "Salon staff to take test under new rules." *The National*. June 18, 2012 Monday . Date Accessed: 2013/06/06. www.lexisnexis.com/hottopics/lnacademic.

Mr Al Rumaithi also said the municipality received a complaint in December that a salon client received third-degree burns from black henna, which contains petrochemicals.

"When we inspected the salon we did not find any black henna because they hid it," he said. "Then we sent a customer asking for black henna, the shop asked her to come at 10pm.

"When she entered at 10pm and they started using black henna on her, we captured them red-handed. The black henna was mixed with petrol and Adnoc lube. We referred the matter to the court and [the salon] was fined Dh8,000."

¹⁰⁷³ Kellerman, A. 2002. *The Internet on Earth: A Geography of Information*. Chichester, England: John Wiley & Sons Ltd. pp 3 - 5

¹⁰⁷⁴ Ed. Kraak, M. 2001. Users of Maps on the Web. *Web Cartography*. Van Elzakker, C. P. J. M. Taylor and Francis, London. p 41

¹⁰⁷⁵ Landweber, L.1995. from Castells, M. 1998, *End of Millenium Vol III, The Information Age: Economy, Society and Culture*. Blackwell, Oxford. p.94

¹⁰⁷⁶ p-Phenylenediamine (PPD) 1,4-Benzenediamine. Dupont. The Miracles of Science. http://www2.dupont.com/Specialty_Chem_Intermediates/en_US/products/ppd.html

¹⁰⁷⁷ United States Department of Labor. "m-, o- and p-Phenylenediamine" *Occupational Safety and Health Administration*. <https://www.osha.gov/dts/sltc/methods/organic/org087/org087.html> (accessed November 14, 2013)

1.1.2. Toxic effects (This section is for information only and should not be taken as the basis of OSHA policy.)

Exposure to phenylenediamines has been reported to affect the kidney, liver, and blood. Inhalation causes respiratory problems and asthma, but the most common toxic effect is dermatitis. (Ref. 5.12.) The current OSHA PEL and ACGIH TLV are 0.1 mg/m³ for p-phenylenediamine with skin notations. ACGIH is now considering the same TLV for m- and o-phenylenediamine and is also considering adding o-phenylenediamine to its suspected human carcinogen list. Currently there are no OSHA exposure limits for m- or o-phenylenediamine.

1.1.3. Workplace exposure

The major uses for phenylenediamines are in the manufacture of dyes. They are also used to dye hair and fur, as photographic development agents, curing agents for epoxy resins, vulcanization accelerators, and as components of gasoline antioxidants. (Ref. 5.13.)

¹⁰⁷⁸ Rollison, DE; Helzlsouer, KJ; Pinney, SM (2006). "Personal hair dye use and cancer: a systematic literature review and evaluation of exposure assessment in studies published since 1992." *Journal of toxicology and environmental health*. Part B, Critical reviews 9 (5): 413–39. doi:10.1080/10937400600681455. PMID 17492526.

¹⁰⁷⁹ Chaudhary, SC.; Sawlani, KK.; Singh, K. "Paraphenylenediamine poisoning." *Nigerian Journal of Clinical Practice*, v. 16 issue 2, 2013, p. 258-9.

¹⁰⁸⁰ umm fauziyah. Comment, "Re: How to get black henna..." posted to The Henna Page Discussion Forum July 07, 1997. <http://web.archive.org/web/20010520022733/http://www.hennapage.com/henna/discuss/messages/853.html> (accessed November 14, 2013)

¹⁰⁸¹ Nirmal. "Two Mehndi Whores" posted to *Away from Our Heritage*. <http://awayfromourheritage.blogspot.com/2010/01/two-mehendi-whores.html?spref=fb> , later moved to <http://awayfromourheritage.blogspot.com/2012/05/archive-non-celebrity-goris-action.html?q=Two+Mehndi+Whores> (accessed April 13, 2011)

¹⁰⁸² holikarang. Comment "This blog needs to be reported" posted to Open Henna Circle, April 13, 2011 <http://hennatribe.org/viewtopic.php?t=11771> (accessed November 14, 2013)

¹⁰⁸³ Gatherer D (2002b) "Identifying cases of social contagion using memetic isolation: comparison of the dynamics of a multisociety simulation with an ethnographic data set." *Journal of Artificial Societies and Social Simulation* 5, no. 4 <http://jasss.soc.surrey.ac.uk/5/4/5.html>

¹⁰⁸⁴ Alison. Comment, "Re: I'm starting experiencing Henna... I can't make it black! Any Suggestion?" posted to The Henna Page Discussion Forum, July 14, 1998. <http://web.archive.org/web/20010222034954/http://www.hennapage.com/henna/discuss/messages/3260.html> (accessed November 14, 2013)

I have found a product that is BLack. It is not henna but Egyptian Amunez. Lasts as long as henna and is easier and quicker to mix. I got sick of losing business because everybody wanted black and here it is. I haven't looked back.
I'll be in Rome next week. Email me back ASAP

¹⁰⁸⁵ Jessdel27 "Temporary Tattoo Dangers to Children" posted to *Babies Online, The Blog*, August 11, 2008.

<http://blogs.babiesonline.com/health/temporary-tattoo-dangers-to-children/> (accessed November 14, 2013)

¹⁰⁸⁶ Kellerman, A. 2002. *The Internet on Earth: A Geography of Information*. Chichester, England: John Wiley & Sons Ltd. pp 3 - 5

¹⁰⁸⁷ Michele Coscia, 2013, "Competition and Success in the Meme Pool: a Case Study on Quickmeme.com,"

International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org)

¹⁰⁸⁸ "Analytics for any Website" *Alexa, the web information company*. <http://www.alexa.com/> (accessed November 14, 2013)

The Global Leader in Analytics

Alexa is the leading provider of free, global web metrics. Search Alexa to discover the most successful sites on the web by keyword, category, or country. Use our analytics for competitive analysis, benchmarking, market research, or business development. Use Alexa's Pro tools to optimize your company's presence on the web.

¹⁰⁸⁹ Paull, J. 2009. Meme Maps: A Tool for Configuring Memes in Time and Space. *European Journal of Scientific Research* 31, 1:11-18.

¹⁰⁹⁰ Foucault, M. reprint edition 1982. "The Archaeology of Knowledge & The Discourse on Language"

Vintage.

¹⁰⁹¹ Michele Coscia, 2013, "Competition and Success in the Meme Pool: a Case Study on Quickmeme.com,"

International Conference of Weblogs and Social Media, Association for the Advancement of Artificial Intelligence (www.aaai.org)

¹⁰⁹² Truthy. Information diffusion research at Indiana University...<http://www.truthy.indiana.edu/> (accessed November 14, 2013)

Truthy is a research project that helps you understand how communication spreads on Twitter. We currently focus on tweets about politics, social movements and news.

¹⁰⁹³ Ellis, Aurora. "A Nubian Wedding" *Daily News Egypt*. August 29, 2013

<http://www.dailynewsegypt.com/2013/08/29/a-nubian-wedding/#dnePhoto/0/> (accessed November 20, 2013)

The dukhan

Before the official henna the groom's sisters and friends go to a henna designer to have their hands decorated; we spend over eight hours crammed together in a small room, watching the lines of liquid henna stream out the small tube and admiring the artist as she drew intricate designs on our hands and feet. After the henna dried, we washed it off to reveal beautiful and delicate designs. We then placed our hands and feet over a hole in the corner of a dark and smoky room the women call the dukhan. The dukhan, the literal translation from the Arabic means 'smoke', is a smoking fire that has been built in a hole in the ground. It is used in both Nubia and parts of Sudan to aromatise the body and to blacken the henna patterns on the skin. Seyam emphasised that it is rituals like this that highlight the importance of henna and the henna day in Nubian weddings.

¹⁰⁹⁴ umm fauziah. Comment, "Re: How to get black henna..." posted to The Henna Page Discussion Forum, December 5, 1997.

<http://web.archive.org/web/20010520022733/http://www.hennapage.com/henna/discuss/messages/853.html>

(accessed November 14, 2013)

¹⁰⁹⁵ Editorial Review for "Setona, Queen of Henna." *Reidel Music* <http://www.amazon.com/Setona-Queen-Henna/dp/B000055WVS> (accessed August 24, 2013)

¹⁰⁹⁶ Sir Hashim, M., et al. "Poisoning from henna dye and para-phenylenediamine mixtures in children in Khartoum." *Annals of Tropical Paediatrics: International Child Health*, v. 12 issue 1, 1992, p. 3-6

¹⁰⁹⁷ "Sudan; Office To Monitor and Combat Trafficking in Persons, 2013 Trafficking in Persons Report, Tier 3" *U.S. State Department*. 2013. <http://www.state.gov/j/tip/rls/tiprpt/countries/2013/215621.htm> (accessed November 14, 2013)

¹⁰⁹⁸ Abdulla, Kamil A and Neil McD Davidson. 1996. A woman who collapsed after painting her soles. *The Lancet* 348, no. 9028:658.

¹⁰⁹⁹ Marie-Louise Olson "Doctors warn of black henna risk" *TheNational*. May 13, 2012 <http://www.thenational.ae/news/uae-news/health/doctors-warn-of-black-henna-risk> (accessed November 14, 2013)

¹¹⁰⁰ Naila. Comment, "Black Henna" posted to Open Henna Circle. <http://hennatribe.org/viewtopic.php?t=11832&sid=1ce32d8ec620756b2eca5849bdadb8a7> (accessed November 14, 2013)

Hello

I recently went to Dubai and at the hotel I was staying we got some tatoos with an excellent black henna product. I asked the artist why they were using the product because it is well known to be dangerous. She said this was similar to henna but not henna and that it was completely safe. The high class hotel would not allow this product to be licensed in the hotel otherwise.

My daughter and I tried a bit and it was great. It peeled off like a stencil once dry.

Now recently in the UK we came across a product boasting the same claims, but oh no! it was dangerous. My daughter has scars on her hand. The product is made in Pakistan and claims to have no side effects.

Has anyone else come across this product? It's in a glamorous black box

¹¹⁰¹ Afkar Abdullah. "Ajman cracks down on salons using harmful products" *Khaleej Times*. June 22, 2012

<http://www.khaleejtimes.com/kt-article-display->

[1.asp?xfile=data/nationhealth/2012/June/nationhealth_June36.xml§ion=nationhealth](http://www.khaleejtimes.com/kt-article-display-1.asp?xfile=data/nationhealth/2012/June/nationhealth_June36.xml§ion=nationhealth) (accessed November 14, 2013)

¹¹⁰² "Salons ignore govt directive on hair dye." *Gulf Times*. August 15, 2013. [http://www.gulf-](http://www.gulf-times.com/qatar/178/details/362845/salons-ignore-govt-directive-on-hair-dye)

[times.com/qatar/178/details/362845/salons-ignore-govt-directive-on-hair-dye](http://www.gulf-times.com/qatar/178/details/362845/salons-ignore-govt-directive-on-hair-dye) (accessed November 20, 2013)

¹¹⁰³ Gupta, B N, A K Mathur, C Agarwal, and A Singh. 1986. "Contact sensitivity to henna." *Contact Dermatitis* 15, no. 5: 303-304. *MEDLINE with Full Text, EBSCOhost* (accessed April 7, 2013)

¹¹⁰⁴ Nigam, P K, and A K Saxena. 1988. "Allergic contact dermatitis from henna." *Contact Dermatitis* 18, no. 1: 55-56. *MEDLINE with Full Text, EBSCOhost* (accessed April 7, 2013).

¹¹⁰⁵ Pasricha, J S, R Gupta, and S Panjwani. 1980. "Contact dermatitis to henna (Lawsonia)." *Contact Dermatitis* 6, no. 4: 288-289. *MEDLINE Complete, EBSCOhost* (accessed October 26, 2013).

¹¹⁰⁶ Oindrilla. "Best Black Mehndi Designs – Our Top 10" *StyleCraze, India's Top Beauty Network*. Jun 11, 2013 <http://www.stylecraze.com/articles/best-black-mehndi-designs-our-top-10/?ref=topbarpos1> (accessed November 18, 2013)

Black Mehndi, also known as Chemical Mehndi, is the resultant of mixing chemicals and dye with henna.

Black Mehndi designs done with the help of the black chemical cone, creating the borders and filled in with henna/mehndi give an amazing dual colour effect and look really beautiful when applied on hands or feet. A lot of Arabic mehndi designs feature black mehndi as well.

Black Mehndi is the preferred choice of many for festivals, occasions and weddings or even for casual wear since it imparts a look different from the usual mehndi we do and provides sharper, stronger colour and more prominent designs which lend a great attractive effect.

Whether used for outlining or by itself, black mehndi designs beautifully imbibe the traditional with the modern, thus being trendy and classy all at the same time.

¹¹⁰⁷ Shehbaz & Jilani Mehendi Designer. Comment posted to Facebook Gallery, May 31, 2013.

<https://www.facebook.com/photo.php?fbid=251500338322061&set=a.213088258829936.48928.212745575530871&type=1&theater> (accessed November 14, 2013)

Mary DeHart Bennett This is very pretty...what brand of henna is it? Does it have some dye plus the henna powder or what ingredients?

Shehbaz & Jilani Mehendi Designer its a mixture of some special ingredients which is made by myself..... and its a latest brand of henna and its colour is so good.. and where r u live my dear...

¹¹⁰⁸ "Women throng hospitals with mehndi itch in Tamil Nadu" *Deccan Chronicle*, August 21, 2012.

deccanchronicle.com <http://www.deccanchronicle.com/channels/nation/south/women-throng-hospitals-mehndi-itch-tamil-nadu-991> (accessed August 12, 2012)

Over 100 young Muslim women thronged the casualty ward of Rajiv Gandhi Government Hospital late on Sunday evening with red, itchy palms after they suffered an allergic reaction to mehndi. Doctors received dozens of patients complaining of a burning sensation in their hands and feet after they applied mehndi, ahead of celebrating Eid on Monday. "Last evening, we treated 109 women as out-patients. We gave them anti-histamine tablets and sent them away as they did not have serious symptoms. However, four women had to be admitted for treatment. They are fine now. They will be discharged on Tuesday morning," said Dr V. Kanagasabai, dean, Rajiv Gandhi Government Hospital. Rumours create panic in Karnataka Ramzan celebrations turned out to be a dampener in Salem, Krishnagiri and other parts of western TN after rumours made the rounds that 10 children had died in Bengaluru suburbs after applying mehndi for Eid celebrations.

¹¹⁰⁹ sarzit11. Comment, "Beware Black Henna Tattoos" posted to *Trip Advisor*, Apr 21, 2010.

http://www.tripadvisor.com/ShowTopic-g311425-i9663-k3571861-Beware_Black_Henna_Tattoos-Marsa_Alam_Red_Sea_and_Sinai.html (accessed November 14, 2013)

Gigo the chap on the beach who did the henna tattoos was lovely and my sons both had a design on their arm plus their name in arabic on our 2nd day. (I had my name in arabic done for free on my wrist - it was great as all the waiters knew my name). Gigo said that the tattoo would last 2 weeks, so to go back on our last day and he would re-apply it for free. We did this the day before we came home and all was great. After about 2 days at home the tatoos both started to itch, become red and inflamed. The boys were in great discomfort and we had to get an emergency appt with our GP. 2 weeks on and they are still red, inflamed and itchy after antihistamines daily. I have since read on the internet that black henna is banned in many countries and that it has harmful chemicals that potentially will cause allergic reactions to certain dyes, medicines etc for life. DONT have it done, however tempting OR look up the facts about the harm from black henna tattoos BEFORE you go. The scar can take up to a year to go and some people have been scarred for life.

The Thompson rep told us about the dangers of the water, not to book trips with the people along the beach as their mini-buses wouldn't be insured etc, to wash hands after handling money. I think they should also warn about the tattoos.

¹¹¹⁰ V. Vale and Andrea Juno, eds. 1989. *Modern Primitives: an Investigation of Contemporary Adornment & Ritual* Re/search San Francisco, CA.

¹¹¹¹ Doyle, Laura, ed., *Bodies of Resistance: New Phenomenologies of Politics, Agency, and Culture*, Northwestern University Press, 2001

¹¹¹² Fabius, C. 1998. *Mehndi: The Art of Henna Body Painting*. Three Rivers Press. New York, NY

¹¹¹³ Daily Mail Reporter. July 10, 2008. "Holiday henna warning as boy, 10, is scarred for life after tattoo goes horrifically wrong" *Mail Online*, part of the Daily Mail, The Mail on Sunday and Metro Media Group. Glam Entertainment. Associated Newspapers Ltd. <http://www.dailymail.co.uk/news/article-1033698/Holiday-henna-warning-boy-10-scarred-life-tattoo-goes-horribly-wrong.html> (Accessed January 28, 2012)

¹¹¹⁴ Eman Tuhama. "Mixing henna with PPD causes skin complications" *Yemen Times*. July 23, 2012. <http://www.yementimes.com/en/1592/health/1183/Mixing-henna-with-PPD-causes-skin-complications.htm> (accessed November 14, 2013)

On the day of her wedding one year ago, Liqa'a Mohammed put henna on her skin. Today, the burns caused by the henna are still visible on her skin.

"I didn't realize that the henna I used wasn't natural," she said. "At first, I thought the burns were because of an evil eye. I went to a sheikh to heal me with the Qur'an, but I didn't recover. The skin irritation increased, so I had to visit a doctor. He gave me ointments and told me that it was caused by the chemicals added to henna.

¹¹¹⁵ Google Trends. Black Henna. <http://www.google.com/trends/explore#q=black%20henna&cmpt=q> accessed March 7, 2013 and attached spreadsheet black_henna_032113.csv

¹¹¹⁶ Google Trends. Henna Tattoo <http://www.google.com/trends/explore#q=henna%20tattoo&cmpt=q> accessed March 21, 2013

¹¹¹⁷ Google Trends. Henna. <http://www.google.com/trends/explore#q=henna&cmpt=q> and attached spreadsheet henna.csv

¹¹¹⁸ Google Trends. Henna Tattoos. <http://www.google.com/trends/explore#q=Henna%20tattoo> (accessed March 21, 2013) and attached spreadsheet henna_tattoo.csv

¹¹¹⁹ Google Trends. Mehndi. <http://www.google.com/trends/explore#q=mehndi&cmpt=q> (accessed November 18, 2013)

¹¹²⁰ Google Trends. Diwali. <http://www.google.com/trends/explore#q=Mehndi&cmpt=q> (accessed March 21, 2013) and attached spreadsheet mehndi.csv

¹¹²¹ Google Trends. Eid. <http://www.google.com/trends/explore#q=eid&cmpt=q> (accessed November 18, 2013)

¹¹²² Kligman, A.M. 1966. "The identification of contact allergens by human assay; III. The maximisation test: a procedure for screening and rating contact sensitisers. *Journal of Investigative Dermatology*; 47:393–409.

¹¹²³ 1598benny. Comment "So it turns out my friend has a reaction to Henna tattoo's..." posted to *Reddit* February 3, 2013

http://www.reddit.com/r/WTF/comments/17tand/so_it_turns_out_my_friend_has_a_reaction_to_henna/c88mlyy

¹¹²⁴ Jacob, SE.; Brod, BA. "Paraphenylenediamine in black henna tattoos: sensitization of toddlers indicates a clear need for legislative action." *The Journal of clinical and aesthetic dermatology*, v. 4 issue 12, 2011, p. 46-7.

¹¹²⁵ LaBerge, L.; Pratt, M.; Fong, B.; Gavigan, G. "A 10-year review of p-phenylenediamine allergy and related para-amino compounds at the Ottawa Patch Test Clinic." *Dermatitis : contact, atopic, occupational, drug : official journal of the American Contact Dermatitis Society, North American Contact Dermatitis Group*, v. 22 issue 6, 2011, p. 332-4.

¹¹²⁶ Kligman, A. M. 1966. "The identification of contact allergens by human assay; III, The maximisation test: a procedure for screening and rating contact sensitisers." *Journal of Investigative Dermatology*; 47:393–409.

¹¹²⁷ Star Tribune. July 2, 2011. "Temporary tattoos put blisters on metro kids" Star Tribune, Minneapolis, MN. <http://www.startribune.com/local/124797314.html> (accessed December 12, 2014)

About half of the children who got the tattoos on June 7 had skin reactions, including blistering and weeping lesions, according to the state Health Department. In most cases, the lesions appeared within 20 days and half appeared within seven days.

¹¹²⁸ Ho, S.G. Y., White, I. R., Ryecroft, R. J. G., MacFadden, J. P. 2004. "Allergic contact dermatitis from para-phenylenediamine in BigenI powder hair dye." *Contact Points. Contact Dermatitis*.51 Page 93 Blackwell Munksgaard.

¹¹²⁹ Brancaccio, RR., et al. "Identification and quantification of para-phenylenediamine in a temporary black henna tattoo." *American Journal of Contact Dermatitis*, v. 13 issue 1, 2002, p. 15-8.

¹¹³⁰ Bajaj, A. K., Dubey, K. S., Misra, K. A simple spectroscopic technique proposed for scanning the depigmenting potential of azo dyes. *Contact Points. Contact Dermatitis* 2004:5188 page 97 Blackwell Munksgaard.

¹¹³¹ Al-Suwaidi, A. Ahmed, H 2010 "Determination of para-Phenylenediamine (PPD) in Henna in the United Arab Emirates" *International Journal of Environmental Research and Public Health*, 7, 1681-1693; doi:10.3390/ijerph7041681

¹¹³² FDA. Inspections, Compliance, Enforcement, and Criminal Investigations. Black Henna Ink, Inc. 14-Aug-06.

FDA U.S. Food and Drug Administration.

<http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2006/ucm076032.htm> (accessed November 3, 2013)

¹¹³³ Almeida, PJ., et al. "Quantification of p-phenylenediamine and 2-hydroxy-1,4-naphthoquinone in henna tattoos." *Contact Dermatitis* (01051873), v. 66 issue 1, 2012, p. 33-7.

¹¹³⁴ Avnstorp C, Rastogi SC, Menné T. 2002. Acute fingertip dermatitis from temporary tattoo and quantitative chemical analysis of the product. *Contact Dermatitis*. August 47(2):119-20.

¹¹³⁵ Özkaya E, Yazganoglu KD, Arda A, Topkarci Z, Erçag E. 2013. The "henna stone" myth. *Indian Journal of Dermatology and Venereal Leprology* 79:254-6

¹¹³⁶ "ADM cautions salons on health standards." *Khaleej Times (United Arab Emirates)*. August 14, 2012 Tuesday .

Date Accessed: 2013/06/06.

ABU DHABI - In the build-up to the Eid Al Fitr holidays, the Municipality of Abu Dhabi City (ADM) is ramping up inspections of women's beauty salons to ensure their compliance with ADM's public health and safety standards.

In a statement issued on Tuesday, the ADM urged beauty centres and their patrons to exercise caution during the busy period leading up to Eid celebrations.

"Intensifying the inspection during these days from the evening up to midnight is intended to educate those in charge of beauty salons and centres as well as their staff about the health standards that ought to be observed in these outlets," stated Khalifa Al Rumaithi, ADM's Director of Public Health.

The municipality made a special note of the increased use of henna, reminding salons to be on the lookout for unsafe henna blends. The natural henna product is often mixed with petroleum or other harmful additives to enhance its dyeing effect, causing damaging health effects to some users.

Ruby from the Beautiful Henna Centre in Abu Dhabi said she offered only natural henna blends, although her salon received an average of 10 to 12 calls everyday requesting "black henna", which is commonly made up of unsafe chemicals to obtain its dark hue.

"Black henna is not henna actually," she said, explaining that the henna plant can only naturally produce orange, red and brown colours. "Since it is not meant to be used on the skin, you can imagine how strong the side effects can be, like causing long-lasting skin allergies," she added.

Even though clients are informed of the ban and the health risks associated with black henna, Ruby said demand is still strong.

Inspectors are confiscating any harmful beauty products found in salons and the municipality may fine, prosecute and even shut down salons if found violating its health and safety standards.

¹¹³⁷ Devos, S. and Van Der Valk, P. “The risk of active sensitization to PPD” *Contact Dermatitis*, 2001, 44, 273–275

¹¹³⁸ Grima, B. 1991. “The Role of Suffering in Women’s Performance of Paxto” *Gender, Genre, and Power in South Asian Expressive Traditions*. Chapter 3.

edited by Arjun Appadurai, Frank J. Korom, Margaret Ann Mills, University of Pennsylvania Press

¹¹³⁹ D'Shaaz Mehendi's Photos posted to Timeline Photos, Facebook, November 8, 2013.

[https://www.facebook.com/photo.php?fbid=177811115752518&set=pb.134947743372189.-](https://www.facebook.com/photo.php?fbid=177811115752518&set=pb.134947743372189.-2207520000.1384781349.&type=3&theater)

[2207520000.1384781349.&type=3&theater](https://www.facebook.com/photo.php?fbid=177811115752518&set=pb.134947743372189.-2207520000.1384781349.&type=3&theater) (accessed November 20, 2013)

¹¹⁴⁰ Cindy Trusty, posted to *Facebook messages*, October 6, 2013 <https://www.facebook.com/messages/cindy.trusty> (accessed October 6, 2013)

¹¹⁴¹ Henna Al Sudani Somali Facebook Page. *Facebook*. <https://www.facebook.com/hlema.arok?fref=ts> (accessed November 20, 2013)

¹¹⁴² Kauthar Moh'd. “Urembo mzuri lakini Mmmh” Posted to *Facebook* October 29, 2013

[https://www.facebook.com/photo.php?fbid=439488022822107&set=a.355283044575939.1073741825.1000028273](https://www.facebook.com/photo.php?fbid=439488022822107&set=a.355283044575939.1073741825.100002827397185&type=1&theater)
[97185&type=1&theater](https://www.facebook.com/photo.php?fbid=439488022822107&set=a.355283044575939.1073741825.100002827397185&type=1&theater) (accessed November 21, 2013)

¹¹⁴³ Hoyu. “History.” Color your heart. Hoyu.com.jp. <http://www.hoyu.co.jp/en/history/> (accessed November 25, 2013).

Subsidiaries in South Africa / Ghana / Nigeria / Egypt / Kenya / Madagascar / Ethiopia / Cote d'Ivoire / Mauritius / Uganda / Djibouti / Sudan

¹¹⁴⁴ Alibaba. “Peacock Hair dye.” NYC Inc. LTD. Alibaba.com. http://nyc.en.alibaba.com/product/222928652-218338328/Peacock_Hair_dye.html (accessed October 21, 2013).

¹¹⁴⁵ Gorgan, Elena. “Woman Ends Up in Burns Unit After Allergic Reaction to Hair Dye.” *News. Softpedia* October 30, 2009. <http://news.softpedia.com/news/Woman-Ends-Up-in-Burns-Unit-After-Allergic-Reaction-to-Hair-Dye-125692.shtml> (accessed November 27, 2013).

Hair dyes can, at times, cause allergic reactions, even in those cases when one uses the same brand and shade one has been using for years. This is why allergy tests are to be performed 48 hours before applying the dye, to see whether the chemicals in it have a negative impact on the body. In the case of 22-year-old Zoe Vernon, not even the allergy patch had any relevance, as she still ended up in the burns unit at the hospital after using a home hair-dye kit, Sky News reports.

Just like many other women around the world, Miss Vernon had been dying her hair for years and she never had such problems. However, since, this time, she had bought a kit she'd never used before, she chose to play it safe and follow the instructions on the box, so she performed the allergy test. She got no adverse reaction, she tells the media, so she naturally moved on with the next step and applied the dye on her hair.

The next morning after that, though, she woke up swollen in the face and in pain. "It was terrifying; I was so scared because it was really painful. I thought if I stayed at home it would get better on its own but it just kept getting worse. My boyfriend came back from working away and was shocked by my appearance and took me to the walk-in centre." Vernon says. Nurses at the center referred her to the hospital, fearing the swelling would impede her breathing.

Zoe Vernon was admitted to the burns unit at the Manchester's Wythenshawe Hospital, where she was placed on a drip, steroids and spent three days recovering from what doctors called the worst case of hair-dye allergic reaction they had ever witnessed. Now, Miss Vernon is using her own example to tell other women that, whether they do anything about it or not, they should be aware of the heavy chemicals that go into the makeup of such hair products.

Boots, which makes the kit Vernon used, has been notified of the allergic reaction and is looking into the matter. "We would like to take this opportunity to remind customers of the importance of following the instructions on hair colorants packs carefully before use, and to ensure that a skin sensitivity test is carried out 48 hours before use." a statement from the company reads.

¹¹⁴⁶ T.R.U.E. Test. p-Phenylenediamine – Patient Information <http://www.truetest.com/PatientPDF/p-Phenylenediamine-Patient-Info.pdf> (accessed November 25, 2013).

¹¹⁴⁷ Thyssen, J. P., Johansen, J. D., Menne, T. 2007. "Contact allergy epidemics and their controls" *Contact Dermatitis*: 56: 185–195

Para-phenylenediamine

PPD is a colourless, slightly pink, grey or yellow crystalline solid (lumps or powder). Chemically, it is an aromatic amine that turns red, brown, and then finally black on oxidation. PPD has been used as a fur and textile dye, but today it is mainly used for permanent hair dyeing and is an ingredient in almost every permanent hair colour product on the market, regardless of brand.

During the 19th century, hair dying with henna became increasingly popular in the Middle East and soon spread to daring women in Europe. The introduction of PPD gradually replaced henna as the preferred hair dye among European hairdressers. In 1898, Cathelineau reported 18 cases of occupational dermatitis to PPD among female hairdressers in France. Sensitization by PPD was considered a significant health risk and was therefore prohibited in Germany in 1906. In 1907, French chemist Eugene Schueller, later founder of l'Oreal, developed a hair colour formula based on PPD that he sold to Parisian hairdressers. In 1910, imported French hair dyes caused contact dermatitis among hairdressers in Spain. During the next decades, the cosmetic industry transferred the PPD technology mainly from the textile and fur industry to hair dyeing. Hence, in the 1930s, accumulating cases of contact dermatitis to synthetic hair and fur dyes made Bonnevie suggest that PPD became a part of the patch test standard series. In 1943 and 1951, respectively, Sweden and France prohibited the use of PPD.

In the 1960s, hair dyeing became a popular home cosmetic procedure in the USA. Shirley Polykoff certainly made a contribution to increasing sales when she in 1956 advertised for Clariol hair dyeing product with lines such as 'Does she. or doesn't she? Only her hairdresser knows for sure,' and 'Is it true blondes have more fun?' In only 6 years, Clairol sales increased by 413%, as more than 50% of US adult women began using hair colour, up from 7%. Today, hair dyeing is widely applied, with 75% of American and Danish women reportedly dyeing their hair and

an increasing number of men following their lead.

Under the EU Cosmetic Directive, PPD is allowed in hair dye products with a concentration limit of 6%. Even though many hair care manufacturers apply PPD in smaller concentrations, sensitization to PPD is high among hairdressers and patients. Between 1980 and 1993, 45.9% of 379 hairdressers patch tested in Madrid had a positive reaction to PPD. Conde-Salazar et al. found a comparable mean value of positive patch test reactions to PPD among hairdressers in 12 earlier publications. In 1992, Guerra et al. showed that 24% of 302 Italian hairdressers were sensitized to PPD. Furthermore, 9 European centres reported that 15% (range 0–45.5%) of 809 patch tested hairdressers had a positive reaction to PPD. In St John's, London, the prevalence of positive patch tests to PPD was 3.2% among 26 706 patients suspected of contact dermatitis between 1982 and 1998. Reports from Germany and the USA have showed slightly higher frequencies, 4.6% and 6.4%, respectively. When Sweden entered the EU in 1992, the national prohibition on the use of PPD was lifted. However, no increase in PPD sensitization has been observed, probably because PPD was also used before 1992 because of import of PPD-containing hair dye products by hairdressers but also because chemically related substances have been applied instead.

Contact dermatitis to PPD can be severe for hairdressers and consumers. Hairdressers and barbers rate among the 3 most prevalent groups suffering from occupational dermatitis in England. In Germany, an increase in the frequency of sensitization to PPD among clients using hair dye was noted between 1995 and 2002. Since the use of hair dye is becoming increasingly popular, the permitted PPD use concentration in hair products clearly calls for a review.

¹¹⁴⁸ Bates, Claire. "My head turned into a football! Shocking pictures show swollen face of woman, 25, after allergic reaction to home colouring kit. Carmen said she performed a patch test 48-hours before with no problems. 'The most disgusting thing is my head started to leak pus,' she said." *Mail Online*. March 2, 2012.

<http://www.dailymail.co.uk/health/article-2109186/Carmen-Rowe-hair-dye-Pictures-swollen-face-woman-25-allergic-reaction.html> (accessed November 25, 2013).

A young woman who fancied a new look was temporarily blinded and hospitalised for three days following a severe reaction to hair dye she bought in the supermarket.

Carmen Rowe's face swelled up 'like a football' after using the Clairol 'Nice n' Easy' natural black colour that she bought at her local Asda. She was admitted to Morrision Hospital in Swansea the following day after the swelling left her unable to see.

Yet the 25-year-old said she carried out a skin test 48 hours before using the dye without a problem and had been colouring her hair since she was 13-years-old.

Carmen Rowe was admitted to hospital for three days after she had a sudden and severe reaction to Clairol hair dye

Carmen Rowe (pictured right) was admitted to hospital for three days after she had a sudden and severe reaction to Clairol hair dye (left)

Miss Rowe was eventually discharged after three days after the swelling was reduced with a combination of steroids and antibiotics. But she was then re-admitted another four times in the following month after developing sores and further swelling.

Doctors eventually diagnosed an allergic reaction to the Paraphenylenediamine in the dye.

Carmen, of Swansea, said: 'I woke up and my head was so swollen that I couldn't see. I was blind.

'I looked in the mirror and half of my face was swollen. It looked like half of my head had been pumped up like a football.

'I went straight to hospital and by the time I got there my head was swollen everywhere, even my ears were huge. The doctors admitted me immediately.

'The most disgusting thing is my head started to leak pus. I had to wrap my head in a towel, it was horrible and it smelt like a wet dog.'

¹¹⁴⁹ "Teenager sues L'Oreal after hair dye left her with 'severe burns and ears swollen to 3 times their normal size'"

Mail Online. January 15, 2008. <http://www.dailymail.co.uk/news/article-508307/Teenager-sues-L'Oreal-hair-dye-left-severe-burns-ears-swollen-3-times-normal-size.html> (accessed November 25, 2013).

A young mother is suing beauty company L'Oreal after she claims a home hair dye left her with peeling skin and ears that had ballooned to three times their normal size.

Crystal Atkinson, 19, claims that her L'Oreal hair dye gave her burns that were so severe the pain has prevented her from picking up her baby and even leaving the house.

The distraught mother-of-one had the Garnier Nutrisse chestnut brown hair dye applied by a mobile hairdresser - days later she was writhing in agony as a painful rash spread across her body and burns appeared on her face neck and scalp.

Crystal Atkinson claims she suffered chemical burns after using L'Oreal hair dye

Miss Atkinson, of Darwen, Lancashire, said: "I have chemical burns on both sides of my face, between my neck and half my scalp, behind my ears and a rash all over my body.

"I haven't been able to go out or hold my baby because my skin is peeling off and there's pus leaking out of my face.

"The pain is unbearable and it looks disgusting.

"My Christmas and New Year has been totally ruined by this.

"This product needs banning from the shelves so nobody else has to go through what I have.

"I went to one hairdresser and she said that in her 40 year experience she's never seen anything like it."

¹¹⁵⁰ Vasagar, Jeevan. "Toxic shock: Even bestselling hair dyes can cause serious allergic reactions - or even death."

The Guardian. May 17, 2001. <http://www.theguardian.com/lifeandstyle/2001/may/17/healthandwellbeing.health5> (accessed November 25, 2013).

Anaphylactic shock is defined as a massive allergic reaction, but it seems like something else entirely. These incidents are sudden, bizarre and shocking. They involve deaths within minutes from substances such as peanuts or insect stings, which cause little or no harm to most people. Or, as in a case reported at an inquest in Birmingham last week, they involve hair dye.

Narinder Devi, a mother of three, was applying the dye, an enormously popular brand called Movida, when the reaction began. She had difficulty breathing and felt she was overheating, and ran into the bathroom to pour cold water over her head. Within an hour she had gone into cardiac arrest.

After Devi's death, the makers of Movida, Laboratoires Garnier, pointed out that such tragedies are very rare: it is estimated that there is one such death in the UK every 30 years or more. But another kind of severe allergic reaction to hair dye is less rare.

Alicia Richens, of St Andrews, Fife, was moved to tears when she read how Devi died. It is only a few weeks since Richens suffered a severe allergic reaction to a hair dye which left her face puffed up "like a blowfish".

She had followed the instructions by trying some of the dye on the back of her arm 48 hours before colouring her hair, with no adverse reactions. But in the days after she applied it to her hair she began to develop a rash and a feeling of being over heated.

"At first I thought it was just a minor itchiness that would go away. By the third day, I couldn't stop scratching my scalp. Hives started appearing on various parts of my body and my face started swelling."

She recovered after a doctor prescribed a course of antihistamine pills, but has vowed never to dye her hair again. Devi suffered a "type one" allergic reaction, which starts within minutes and lasts less than an hour. Richens is thought to have had the other main type of reaction to hair dye: a "type four" reaction, which takes days to develop and lasts for days.

Such reactions to hair dyes happen in perhaps one in every 100,000 applications. In most cases, the component in the hair dye that prompts the reaction is para-phenylenediamine, known to be a potent cause of allergic rashes in susceptible people.

An allergy is what happens when the body's immune system becomes hyperactive, defending us from foreign bodies that are not a threat. When someone is exposed to a sensitising agent, this binds on to markers called E-class immunoglobins (IgEs), of which there tend to be more in allergy sufferers. The IgEs then latch on to a certain type of cell, which rupture and release histamines - irritating chemicals - into the body. This can cause local hives or, if there is widespread histamine release, anaphylaxis.

People die from anaphylaxis either because their blood pressure drops or because swelling in the throat blocks breathing. These processes can be reversed if adrenaline is injected.

According to medical experts, tests on small patches of skin - such as those advised by hair dye manufacturers - can give false results, as with Richens. Peter Lane, an immunologist at the University of Birmingham, says: "Usually, but not always, patients who develop anaphylaxis have a warning preliminary episode when they develop less severe symptoms.

"If you develop hives, or have any breathing difficulties or feel faint, stop using whatever provokes the reaction and seek medical advice. Your next exposure might be fatal."

¹¹⁵¹ Plunkett, B. "Black henna tattoos. A major cause of allergy to hair dye" uploaded to Colourstart, YouTube, Aug 29, 2012. http://www.youtube.com/watch?v=DKZ_SxWINQ0 (accessed November 23, 2013).

¹¹⁵² Star Tribune. July 2, 2011. "Temporary tattoos put blisters on metro kids" Star Tribune, Minneapolis, MN. <http://www.startribune.com/local/124797314.html> (accessed December 12, 2014)

About half of the children who got the tattoos on June 7 had skin reactions, including blistering and weeping lesions, according to the state Health Department. In most cases, the lesions appeared within 20 days and half appeared within seven days.

¹¹⁵³ Kligman, A. M. 1966. "The identification of contact allergens by human assay; III, The maximisation test: a procedure for screening and rating contact sensitisers." *Journal of Investigative Dermatology*; 47:393–409.

¹¹⁵⁴ UNAIDS. Report on the Global AIDS Epidemic; 2013. *UNAIDS Secretariat*
http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/UNAIDS_Global_Report_2013_en.pdf (accessed November 27, 2013).

¹¹⁵⁵ Plunkett, B. "Black henna tattoos. A major cause of allergy to hair dye" uploaded to Colourstart, YouTube.
http://www.youtube.com/watch?v=DKZ_SxWINQ0 (accessed November 23, 2013).

¹¹⁵⁶ Jacob, SE., et al. "p-Phenylenediamine in black henna tattoos: a practice in need of policy in children." *Archives of Pediatrics and Adolescent Medicine*, v. 162 issue 8, 2008, p. 790-2.

¹¹⁵⁷ National Institute of Allergy and Infectious Diseases. 2012. Food Allergy. *US Department of Health and Human Services*. National Institute of Health.

<http://www.niaid.nih.gov/topics/foodAllergy/understanding/Pages/quickFacts.aspx> (accessed November 23, 2013).

¹¹⁵⁸ "Truthy." *Information diffusion research at Indiana University*. <http://www.truthy.indiana.edu/> (accessed November 23, 2013).

Truthy is a research project that helps you understand how communication spreads on Twitter. We currently focus on tweets about politics, social movements and news.

¹¹⁵⁹ Floating.Sheep. <http://www.floatingssheep.org/> (accessed November 23, 2013).

What is this all about? Give me the short version.

Cyberspace. Places. Users. SMUSH! Wow!

OK, how about a slightly longer version?

There is an increasing amount of data on the Internet that is geo-coded to a particular spot on the earth. This has huge implications for how we interact with our surroundings and each other.

This site is dedicated to mapping and analyzing user generated geocoded data. The results provide one glimpse of what internet users (in the aggregate) think about particular places. Where are people posting placemarks about swine flu? Which places are considered to be "fun" by the collective intelligence of the Internet users?

We view this new cloud of user generated data as cyberscape which provides an additional layer for human interaction. In addition to our five senses we can now access cyberscapes of information (see our visualization below) as a digital sixth sense. We can look around a physical corner and see what online information has been tied to that location. Since a large amount of this information is created by users we

are no longer limited to the stale monotony (or security) of business directories or phonebooks. People can document their memories, feelings, biases and reactions to places and share them with the world.

¹¹⁶⁰ Blackmore, S. "Susan Blackmore: Memes and "temes"" Ted Talks. Filmed 2008. Posted June 2008.

http://www.ted.com/talks/susan_blackmore_on_memes_and_temes.html (accessed November 23, 2013)

¹¹⁶¹ Khalaf, Hala. "Capital bans chemicals used to make 'black henna'." *The National*, June 3, 2010.

<http://www.thenational.ae/news/uae-news/health/capital-bans-chemicals-used-to-make-black-henna> (accessed January 6, 2012).

¹¹⁶² Alyson Harris. Photos from Alyson Harris's post in PPD Free Henna Artists. *Facebook*. June 7, 2013.

https://www.facebook.com/photo.php?fbid=10100351029251757&set=gm.644464748915528&type=1&relevant_count=2&theater (accessed September 18, 2013).

¹¹⁶³ Victoria Villalobos. "Debating; Venice Beach, CA." Uploaded to Smiledarling Photostream, Flickr, November 29, 2009. <http://www.flickr.com/photos/smiledarling/4284305642/> (accessed November 22, 2013).

¹¹⁶⁴ Daisy Nguyen. Comment, "Mother-Daughter Day: In Search of Henna Tattoos!" posted to *PS Bananas*, September 12, 2012, <http://psbananas.com/2012/09/12/mother-daughter-day-in-search-of-henna-tattoos/> (accessed November 23, 2013).

"So off we went, to a local Somali mall where we heard about their cool henna tattoos! We wandered around and found Sabrina's beauty shop! And guess what? The henna artist, Halima, is 14, and she's been doing henna since she was five!"

¹¹⁶⁵ May, R., Lloyd, A. 2001. "Infection dynamics on scale-free networks." *Physical Review E*. Volume 64, 066112. The American Physical Society.

¹¹⁶⁶ Hansen, D., Voutsalath, M., "Contact dermatitis from a presumed allergy to para-phenylenediamine" *Journal of Cosmetic Dermatology* Volume 8, Issue 4, pages 308–311, December 2009

¹¹⁶⁷ Calogiuri, Gianfranco, Caterina Foti, Domenico Bonamonte, Eustachio Nettis, Lionello Muratore, and Gianni Angelini. 2010. "Allergic reactions to henna-based temporary tattoos and their components." *Immunopharmacology & Immunotoxicology* 32, no. 4: 700-704. Academic Search Complete, EBSCOhost (accessed December 27, 2011).

¹¹⁶⁸ Ilyas, Faiza. "KARACHI: Chemically-laced mehndi in widespread use." September 28, 2008. *Dawn.com* <http://archives.dawn.com/2008/09/29/local12.htm> (accessed September 2, 2013)

¹¹⁶⁹ DuPont. "p-Phenylenediamine (PPD) 1,4-Benzenediamine. Product Description and Uses." The Miracles of Science. Dupont.com. http://www2.dupont.com/Specialty_Chem_Intermediates/en_US/products/ppd.html (accessed November 23, 2013).

¹¹⁷⁰ Woodsm. "Ohm." Uploaded to woodsm Photostream, Flickr June 26, 2005.
<http://www.flickr.com/photos/woodsm/21792771/> (accessed November 23, 2012)

¹¹⁷¹ Farran, Albert González. "El Fasher: (In black dress) Fatama Abaker Bakhit, 'Tata,'" performs a drawing on Enam Mohammed's foot with "henna." Uploaded to *UNAMID Photo's Photostream*, Flickr.com March 30, 2013.
<http://www.flickr.com/photos/58538810@N03/8730156123/> (accessed November 23, 2013).

¹¹⁷² Marie-Louise Olson. "Beauty Scare Afflicts Gulf: Black Henna Can Be Fatal." *Albawaba Editor's Choice*. May 17, 2012. <http://www.albawaba.com/editorchoice/dubai-black-henna-fatal-425211> (accessed November 24, 2013).

¹¹⁷³ Khalaf, Hala. "Capital bans chemicals used to make 'black henna'." *The National*, June 3, 2010.
<http://www.thenational.ae/news/uae-news/health/capital-bans-chemicals-used-to-make-black-henna> (accessed January 6, 2012).

"ABU DHABI // Chemicals used to darken henna that can cause dangerous reactions and burn the skin have been banned in the capital, Abu Dhabi Municipality said yesterday. If traces of additives such as benzene, petroleum and P-phenylenediamine (PPD) are discovered in henna used at the city's salons, the substance will be confiscated and the salon may face legal action, said Khalifa al Romaihi, acting director of the public health division at the municipality.

"Beauty salons will be checked regularly in random inspections to ensure harmful additives that can cause "serious health complications" are not being added to the natural dye, the municipality said. Traditionally, rose oil, limes and dried lemons would be mixed with henna powder as a method of darkening the dye; now, however, some salons take shortcuts, said Khalifa al Romaihi, the acting director of the public health division at the municipality

"Nowadays, for speed, salons mix the henna with benzene, or even hair dye, which is also harmful for prolonged periods on the skin," said Mr al Romaihi. Some salons use a mixture that is 80 per cent black hair dye and 20 per cent henna on customers, he said. PPD, which is classed by the EU as an "extremely potent skin sensitiser", is found in hair dyes and can cause severe allergic reactions. When deciding on fines, the severity of the punishment will depend on how serious the offence is, said Mr al Romaihi.

"A salon could be shut down completely, have its licence revoked, or face a minimum fine of Dh2,000. He added that, in addition, charges could be pressed against salon owners. In the past week alone random inspections of henna samples from salons in the capital, sent to the Health Authority-Abu Dhabi (HAAD) for testing - have found three salons using harmful, synthetic forms of henna on women, according to the municipality.

¹¹⁷⁴ Sherif, Iman. "Constant vigil for hazard-free beauty." *Gulf News*, August 8, 2011.

<http://gulfnews.com/news/gulf/uae/health/constant-vigil-for-hazard-free-beauty-1.848555> (accessed January 6, 2012).

"Self-employed hair dressers do pose a significant problem for us. For example, self-made blend henna, creams, hair masks and perfumes, are a combination of chemicals that may be harmful when mixed.

"Earlier this month (July 7), we found, in one of our surprise inspection campaigns, a salon and supplier preparing a large quantity of black henna. We inspected the contents and found that the salon was using petrol and diesel in addition to an unknown powder.

"We sent the products to the laboratory for testing and to identify the ingredients. The violators will be taken to court, and the shop will most likely be shut down.

¹¹⁷⁵ "Artificial henna dealers come under surveillance." *Oman Daily Observer*, May 25, 2011.

<http://main.omanobserver.om/node/52328> (accessed January 6, 2012).

MUSCAT — The Ministries of Health and Commerce and Industry are keeping a close watch on the artificial henna importers and dealers in the wake of the reports that point at the hazardous chemicals being used as ingredients of the same.

"We are closely monitoring the incidence of the health issues caused by the black henna being imported to the country and are in touch with the Muscat Municipality and Ministry of Commerce and Industry, and the Customs Department", Dr Issa Said al Shuaili (pictured), Head, Department of Environmental and Occupational Health Section at the Ministry of Health told the Observer.

"If the presence of any hazardous chemical in these consumer products is found, we'll subject the same for detailed chemical analysis in our laboratory in Qurum and will visit the outlets seeking clarification from the shop keeper while with the product literature will be checked for toxicity".

It has been brought to light that a strong organic compound, 'p-Phenylenediamine (PPD)' with the chemical formula C₆H₄(NH₂)₂, has been used as an ingredient in black henna to derive desired colour results and the same has been causing health issues such as allergy, rashes, blisters to the users in Oman.

¹¹⁷⁶ Hassan, I.B., Islam, S.I., Alizadeh, H., Kristensen, J., Kambal, A., Sondag, S., Bernseen, R.M. 2009. "Acute leukemia among the adult population of United Arab Emirates: an epidemiological study." *Leukemia and Lymphoma*. 2009 July; 50 (7):1138-47. doi: 10.1080/10428190902919184.

¹¹⁷⁷ Olson, Marie-Louise. "Beauty Scare Afflicts Gulf: Black Henna Can Be Fatal." *Albawaba Editor's Choice*, May 17, 2012. <http://www.albawaba.com/editorchoice/dubai-black-henna-fatal-425211> (accessed November 24, 2013).

Dr Mostafa sees at least one patient a week with severe reactions to PPD.

The risks of black henna are well known to regulators and Dubai banned its use in 2009, but the tattoos are still often offered on desert safaris and at weddings.

Dr Hussein Abdeldaiam, a dermatologist at Al Mafraq Hospital in Abu Dhabi, treated a woman last week who had applied black henna at her wedding celebration.

"She was in such a miserable condition," he said. "Her skin was completely swollen and weeping fluids."

Some tour companies, which each take an average of 30 tourists a day on desert safaris, admit to offering free black henna tattoos as part of their tour packages.

Dubai Desert Safari Tours and North Tours both said they used black henna.

Karen Salvador, a marketing assistant at Fun Tours, said she had heard about the dangers of black henna but did not know which chemicals the company used.

¹¹⁷⁸ Jacob, SE., et al. "p-Phenylenediamine in black henna tattoos: a practice in need of policy in children." *Archives of Pediatrics and Adolescent Medicine*, v. 162 issue 8, 2008, p. 790-2.

¹¹⁷⁹ Manning, Steve. "Rehoboth places strict limits on henna tattoos." *The Associated Press State & Local Wire*, September 1, 2000. LexisNexis Academic. (accessed April 4, 2013).

¹¹⁸⁰ Smith, Steele. "Henna Tattoos: The Dark Side." Speak Out!" Letters to the Editor, *The LookOut*, May 8, 2001 http://www.surfsantamonica.com/ssm_site/the_lookout/letters/Letters-2001/May_2001/05_08_2001_Henna_Tatoos_The_Dark_Side.htm (accessed August 9, 2013).

¹¹⁸¹ The Associated Press State & Local Wire. "News briefs from Southern California." *The Associated Press State & Local Wire*. LexisNexis Academic. (accessed April 4, 2013.)

¹¹⁸² Rosenberg, Amy S. "N. Wildwood joins ban of henna tattoos; The town acted in response to complaints of rashes and burns. You can still legally buy a hermit crab, though." *The Philadelphia Inquirer*. March 9, 2002. LexisNexis Academic. (accessed April 14, 2013).

¹¹⁸³ "MP WANTS BODY ART CRAZE TO BE REGULATED." Birmingham Post, August 9, 2003. LexisNexis Academic. (accessed April 13, 2004).

¹¹⁸⁴ "ADVISORY - Health Canada alerts Canadians not to use "black henna" temporary tattoo ink and paste containing PPD." *Canada NewsWire*, August 11, 2003. LexisNexis Academic. (accessed April 4, 2013).

¹¹⁸⁵ "Health Canada blacklists henna ink ingredient." *Calgary Herald*. August 12, 2013. LexisNexis Academic. (accessed April 4, 2013).

¹¹⁸⁶ Mattson, Marcia. "Black henna tattoos can cause scarring Health department issues warning." *Florida Times-Union*, August 20, 2003. LexisNexis Academic. (accessed April 13, 2013)

¹¹⁸⁷ Basas, CG. "Henna tattooing: cultural tradition meets regulation." *Food and Drug Law Journal*, v. 62 issue 4, 2007, p. 779-803. <http://www.ncbi.nlm.nih.gov/pubmed/18557230> (accessed November 23, 2013).

¹¹⁸⁸ Marie-Louise Olson. "Beauty Scare Afflicts Gulf: Black Henna Can Be Fatal." *Albawaba Editor's Choice*. May 17, 2012. <http://www.albawaba.com/editorchoice/dubai-black-henna-fatal-425211> (accessed November 24, 2013).

Julie McCabe, 38, a British tourist who visited Dubai, is taking legal action in the UK against the cosmetics company L'Oréal. She suffered a severe allergic reaction after colouring her hair in October with the company's Preferences dye.

"Hair-dye manufacturers have a warning on their packaging about black henna, so it is a potential issue that people are not aware of the connection," said her lawyer, Greg Almond.

¹¹⁸⁹ Article 3. "Gruesome Images Upset Tobacco Companies: New Lawsuit Invokes 1st & 5th Amendment Rights." *Article-3.com*, August 22, 2011, <http://www.article-3.com/gruesome-images-upset-tobacco-companies-new-lawsuit-invokes-1st-5th-ammendment-rights-93116> (accessed November 24, 2013).

Those shocking and repulsive images we've seen on cigarette packages must be working; four of the five largest tobacco companies are up in arms over the FDA approval of nine new images – one of which depicts the sewn-up corpse of a smoker, and a few others use the images of children to provoke guilt.

The new labels, which must cover at least 20 percent of the packaging and include a government stop-smoking hot-line, have pushed the tobacco companies to take legal action, suing the FDA to overturn the law.

The argument being made is that the warnings no longer simply convey facts to allow people to make a decision about whether or not to smoke. They instead force companies to place the government anti-smoking campaign more prominently on their packs than their own brands.

"Never before in the United States have producers of a lawful product been required to use their own packaging and advertising to convey an emotionally-charged government message urging adult consumers to shun their products," the companies wrote in the lawsuit filed in the Washington D.C. federal court.

The government can require warnings which are straightforward and essentially uncontroversial, but they can't require a cigarette pack to serve as a mini-billboard for their own anti-smoking campaign," a tobacco lawyer said.

This is a free speech lawsuit. The companies maintain that under the first and fifth amendments, as private entities, they have the rights to say, or not say, what they want.

At the base of it all, however, is not a complex constitutional right, but the companies' fear that the new labels will make customers "depressed, discouraged, and afraid" of their products.

Sadly, that is exactly the point.

¹¹⁹⁰ Denis Campbell. "Alcohol packaging should carry graphic health warnings, urge doctors. Cigarette-style images would help public understand excessive drinking's link to diseases and violence, says health body" *The Guardian*, July 13, 2012 <http://www.theguardian.com/society/2012/jul/13/alcohol-packaging-graphic-health-warning> (accessed November 24, 2013).

¹¹⁹¹ Article 3. “Gruesome Images Upset Tobacco Companies: New Lawsuit Invokes 1st & 5th Amendment Rights.” Article-3.com, August 22, 2011, <http://www.article-3.com/gruesome-images-upset-tobacco-companies-new-lawsuit-invokes-1st-5th-ammendment-rights-93116> (accessed November 24, 2013)

¹¹⁹² Kungfu-kickass. Comment, “Acute allergic reaction to henna” posted to *WTF/Reddit*. March 2013, http://www.reddit.com/r/WTF/comments/1be5to/acute_allergic_reaction_to_henna/
<http://i.imgur.com/UrbXOv.jpg> (accessed November 25, 2013)