



The Tattoo Phenomenon Between Technology And Tools

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Abstract:

This conceptual and theoretical synthesis aims to precisely focus on the conceptual and theoretical framework for studying the tattooing technique as a factor influencing the emergence and growth of tattoo culture due to changes in tattooing techniques from one period to another. The tattooing technique among people in traditional society differs in its form, performance, and tattoo outcomes among members of modern society. There is a difference between traditional tattooing in its technique and modern tattooing, which we will explain in the subsequent discussion regarding tattoo techniques and their differences.

Keywords: Body, society, tattoos, technology, tools.

1. Introduction:

The study of the history of human relations has prompted researchers in various fields of knowledge to scrutinize the process of communication and interaction among individuals, as well as to explore ways to develop techniques that could influence social and cultural changes for humanity. The social and cultural transformations brought about by technology due to cultural determinism, which enables the effects of techniques such as writing, printing, beautification, tattooing, imagery, sculpture, and engraving on wood, copper, and gold, as well as computing—this technology governs the development and enhancement of all the aforementioned techniques—serve as a pathway to change societies and cultures.

Tattooing technology is a significant factor in the emergence and growth of tattoo culture, driven by changes in tattooing techniques over time. Tattoos have become a globally prevalent social phenomenon, creating a communicative language through symbols, shapes, and writings that are regulated and refined by the tattooing tools controlled by the tattoo artist, who markets this cultural tattooing art within the framework of academic research interests.

Based on the above, this study attempts to answer the posed issue with its main question: To what extent do the visible changes in modern tattooing techniques compare with traditional tattooing?

This main issue encompasses several sub-questions that can be summarized as follows:

- What is the tattooing process? What are its techniques?
- What are the tools of tattooing?

- What are the differences in the tools used in modern tattooing compared to traditional tattooing?

1.1 Objectives of the Study:

The research study aims, through its inclusion of the main question and its related sub-questions, to gain field knowledge about tattooing from sociological and anthropological perspectives. This is viewed as a written text and a communicative discourse through the body, resulting from tattoo techniques and tools that establish the forms and images of tattoos due to a cultural practice performed by the tattoo artist. This artist produces the cultural phenomenon within popular contexts, shaped by customs, beliefs, and traditions. Additionally, the researcher aims, during the course of the study, to clarify the practical and procedural aspects of how tattoos are applied to bodies using various tools and different techniques that contrast the popular practice of tattooing as both a tradition and a modern trend, allowing the body to enter the marketplace of art and bodily beauty through tattoos.

1.2 Importance of the Study:

This topic derives its importance from the fact that tattooing is a global phenomenon that has spread in local communities, either driven by imitation or modern trends, thereby forming an important thematic framework and field space for study, research, and analysis. This has led us to investigate the techniques of tattooing, its tools, mechanisms, and how it spreads.

1.3 Methodology of the Study:

We have adopted a descriptive-analytical methodology for the study, aligning it with the subject and objectives of the research. This involves tracking and observing the main techniques of the tattooing process and their changes over different time periods, in line with the differences between traditional tattoos and modern tattoos, which show a clear variation in tattooing tools and techniques among many communities in ancient times and those living in the modern era. Concurrently, we present models that illustrate the methods of tattooing, its tools, and the techniques represented in the tattoos on bodies, as required by the analysis of the comprehensive reading of tattoo imagery.

1. The Methodological Framework of the Study:

1.1. Basic Concepts of the Study:

2.1. Definition of Tattooing:

A. Tattooing in Language:

According to the *Encyclopedia of Religion and Ethics*, tattooing is described as "a custom of marking specific areas of the human body through puncturing or branding or other such practices" (Husseini, 2013, p. 30).

Al-Jawhari, in his dictionary *Al-Sihah*, states that "to tattoo" (وَسَّمَ) means to puncture the skin with a needle and then apply a dye (specifically, *al-nahlaj*). It is also mentioned that "to tattoo" (يُوشِمُ) can be used in the context of asking someone to tattoo another (يَسْتَوِشِمُهُ). In the book *Tahdhib al-Lugha* by Al-Azhari, it is stated that "she tattoos" (تَشِيْمُ) and is referred to as a tattooer (وَأَشِيْمَةُ) and the one receiving the tattoo (مَوْشُوْمَةٌ). Ibn Shamil adds

that "tattoos" (الوشوم) and "marks" (الوسوم) refer to signs (Bahansi, 1997, p. 138). Ibn Manzur, in his dictionary *Lisan al-Arab*, notes that "tattoo" is what a woman makes on her arm with a needle, which she then fills with dye, which could be soot from fat. Abu Ubaid explains that tattooing on the hand involves a woman pricking the back of her hand and wrist with a needle or awl until it leaves a mark, then filling it with kohl or dye (Azrawal, 2016, p. 98).

The *Concise Encyclopedia* interprets the source of the word "tattoo" in Arabic as follows: "The word tattoo means the custom of marking the skin, especially on the palm of the hand, the arm, or the cheek. Different cultures have practiced it in various ways, including puncturing and coloring. Some ancient human groups engaged in this for utilitarian purposes; it could be associated with bloodletting or scarring as a sign of sorrow, or it might serve to protect against the evil eye, to signify social status or tribal affiliation, or to denote social rank. Tattooing has also been used, along with branding, to mark criminals or prisoners, and its practice has decreased among societies embracing civilization and education" (The Concise Arabic Encyclopedia).

B. Tattooing in Terminology:

Simone Wiener defines tattooing as "the process of engraving a symbol drawn on the skin; it represents a form of permanent writing due to its lasting presence on the skin, or it may represent a type of ephemeral drawing as it expresses a specific period in life." It creates a scratch or injury on the body, thereby highlighting the symbol and image, existing at the intersection of the imaginary and the symbolic (Karkouch, 2015, pp. 258-259).

Tattooing, like a stamp on the skin, manifests as a permanent mark created through puncturing with the use of oxides and acids in various locations. It may be associated with bloodletting and scarring as a sign of sorrow, or it may serve as protection from the evil eye, to signify social status or tribal affiliation, or to denote social rank (Tal'at, 2012, p. 12).

The tattoos on the bodies "that rural people adorn on their hands, chests, lips, and faces are not random... Rather, they trace back to ancient history when people lived a primitive life, revering certain animals and fearing certain natural phenomena such as waves, winds, rains, and thunder" (Ibrahim, 2009, p. 128).

2.2. Nature of Tattooing:

Tattooing is a manual process that involves applying pigments of various colors into the dermis of the skin. The dermis is a layer of skin tissue located beneath the epidermis. Immediately after the application of pigments, these pigments are uniformly distributed within the upper dermis, and the epidermis becomes damaged due to repeated puncturing. This automatically activates phagocytic cells of the immune system to engulf particles of the pigments. The damaged epidermis initiates a healing process, shedding the superficial layer of pigments while granulation tissue forms in the deeper skin layers. This eventually transforms into connective tissue where the pigments become concentrated beneath the limits of the dermis and epidermis. However, over the years, pigments tend to penetrate deeper into the dermis, which explains the lack of clarity and precision in the details of old tattoos on the body.

In ancient times, the tattooing process involved puncturing the skin with needles, typically bound together in groups of three to seven. These needles were dipped in indigo

or charcoal to acquire their color, or in bird bile, which gives a dark green color. Historically, the colors of tattoos were predominantly blue and green due to the magical and decorative symbolism associated with these colors in popular beliefs among communities.

In modern times, the tattooing process relies on an electric tattoo machine that injects colored pigments, which take on granular shapes beneath the skin, specifically in the dermis, to produce various colors. Most of these materials are organic; for example, carbon provides a blue color, iron oxide gives black, chromium oxide results in green, sulfur produces blue, and mercury sulfide yields red. Additionally, plant-based mixtures can produce different colored dyes (Sweilem, 2013, p. 12).

Other tattooing methods are used by African tribes that involve puncturing the skin during the tattooing process. This is done by making incisions with a sharp knife, after which pigments are rubbed into the resulting wounds, imparting colors that differ from the skin's natural color after the wounds heal. Thus, tattoos appear in various forms. Another distinct type of tattooing involves scarring certain areas of the body with a sharp knife or file. This phenomenon is prevalent in regions of Africa, such as Nigeria, Sudan, and the Central African jungles, where pigments are applied to the incisions with a feather, resulting in tattoos that appear on the face, limbs, or shoulders. This type of tattooing is commonly used in Africa for magical, cosmetic, therapeutic, or ethnic purposes, serving as a mark of identity and belonging.

Through comparative observation, the differences in the materials and pigments used in the tattooing process lead to variations in tattoo colors on the body, which plays an important role in the longevity, durability, and aesthetics of tattoos.

1.2. General Framework of the Study:

1. Tattooing Techniques:

1.1. Puncturing:

Puncturing is a technique used by tattoo artists to tattoo the body, typically employing a needle. This was observed in the studied local community, where the tattooing material is prepared and is considered a colored pigment, often consisting of the following materials: *ghanj al-nar*, which is a black substance produced from the burning of wood or charcoal, resembling thick black dust. This material is usually found in the corners of the oven, known as the chimney, at the chimney outlet, or on the three stones placed in the center of the traditional oven, or from the pot set over the wood fire. Community members traditionally collected this *ghanj al-nar*.

Other materials include kohl, ash from fire, ground charcoal, and ash from burnt sheep wool. All these materials were used as tattooing pigments in the past by the local community. When tattooing young girls, the tattoo artist would typically mix the tattooing materials with the milk of a nursing woman to create a thickened tattooing paste. The artist would then draw the desired tattoo design with the tattooing material using a stick. Once the tattoo owner approved the design, the artist would take the tattooing material on the needle's tip and puncture it into the dermis quickly and repeatedly until completing the desired tattoo shape. This was typically done in the spring season.

The puncturing technique emerged after the incision technique, marking an evolution in the studied local community, appearing in the 1960s to 1970s, as documented in interviews with local community members. The tattooing puncturing technique was also adopted by prisoners in penal settings, allowing them to easily hide the needle as a tattooing tool or to introduce it into the penal environment very discreetly. Tattoo bearers among prisoners reported to the researcher that the tattooing method involves inserting the tattooing material into the skin using a needle. In penal settings, tattooing materials consist of ready-made Chinese ink or pigments prepared inside the prison, where cigarette remnants, now ashes, are collected and mixed with body wash liquid or shampoo to create a dark, thickened paste.

The tattoo artist then draws the desired or proposed tattoo design with a pencil or a sharp piece of wood, often a sharpened matchstick, leaving a trace of the drawing. The artist then inserts the needle into the tattooing material and follows the drawn lines, puncturing the skin and introducing the colored tattooing material. This is done quickly and repeatedly, resulting in blood and pain; the blood is wiped away with a cloth while the pain is endured.

1.2 Scarification Technique:

This technique marked the initial stages of tattooing within the studied local community and persisted until around the 1960s, when the needle technique emerged. Scarification involved using a small, extremely sharp metal tool or knife, with which the tattooist would cut into the skin in a way that outlined the tattoo design, causing intense pain and bleeding—a ritual believed to purify the body of its impurities. Afterward, the tattooist applied a substance to the wound and rubbed it vigorously. This substance was either tannur soot, ash, charcoal powder, kohl, or ground remains of charred wool. Finally, a green herb was rubbed over the wound to complete the process. Scarification was generally performed in the spring when the weather was deemed suitable for wound healing, and the tattoo was left unwashed for a week to set. The spring season also brought rural abundance in products like yogurt, butter, eggs, and honey, some of which were given to the tattooist as compensation. According to certain informants, broken glass was sometimes used for this technique.

1.3 Incision or Marking Technique:

This method, unlike typical tattooing, did not aim to color the skin but rather to create lasting scars or marks. It involved opening the skin by approximately half a centimeter, then applying a substance that prevented the wound from closing and allowing it to heal while open. This highly painful tattooing technique was not historically found in the studied community but is known in African societies, particularly among people of African descent whose darker skin tones might not display tattoo colors prominently. Beginning around 2014, however, this technique—locally referred to as “Al-Ta'risha”—began gaining traction among young people in the community. Unique to this method is that individuals perform it on themselves, cutting or scoring their skin with a knife until blood flows, and then leaving the wounds untreated to extend the pain as long as possible. Several young people in the studied community reported engaging in this practice while in states of altered consciousness induced by hallucinogenic drugs. Typically done on the chest, arms, and occasionally the abdomen, this practice serves as an attempt to alleviate psychological pressure stemming from what they perceive as unresolvable social issues. They use bodily pain as a form of retribution against themselves, viewing it as a way to

escape the "social prison" of relentless problems. Through this bodily suffering, they seek psychological relief, believing the ongoing pain might eventually help the body find a release from societal confines.

1.4 Branding or Iron-Cauterization Technique:

This ancient technique has roots stretching back through human history. The philosopher Herodotus referenced its use by the Greeks, who branded animals to mark ownership by applying specific symbols on the ears of sheep, shoulders of cattle, or necks of horses and camels. Similarly, branding was used historically on slaves and prisoners; for instance, during World War II, the Germans branded prisoners with unique identification numbers on their arms. In the past, members of royal families were also branded, particularly during the Safavid dynasty, where a distinctive mark symbolized their royal status. Branding involved heating iron in a fire until it became red-hot, then pressing it onto the skin. As Abd al-Karim al-Khattibi documented, Herodotus described tattooing as "stigma," meaning a burn mark with heated iron (al-Khattibi, 1946, p. 74). This method emphasizes the lasting mark it leaves rather than any color, and the scar remains on the person's body permanently.

In the studied local community, branding practices were observed on the forearm and the back of the neck, often used as a traditional remedy for specific ailments, such as hepatitis, commonly referred to locally as "the yellows." This branding custom, as documented in rural and pastoral regions (see images 04 and 05 taken by the researcher), was employed for therapeutic purposes. Here, I can offer an operational definition of tattooing as any enduring mark on the skin, whether colored or not, achieved through needle pricking, skin scoring, or branding with heated iron.

1.5 Thread-Based Tattooing Technique:

This technique involves threading a needle, dipping it along with the thread into ash, charcoal powder, or kohl, and then passing the needle and thread through the skin in a manner similar to sewing fabric. The material under the skin leaves a dark blue color. The thread and needle are repeatedly dipped in the tattooing powder with each insertion into the skin. This technique is notably painful and was traditionally used in the studied community as a rite of passage, testing individuals' tolerance for pain to determine leadership readiness. Elders from the community, who witnessed these traditions or heard of them from older generations, reported that this technique was also used when two or more young men expressed interest in marrying the same woman within the tribe. A competition would be arranged in which their bodies were tattooed, testing each man's endurance. The tattooing would continue until the one with the least endurance surrendered, and the remaining man who withstood the pain was considered most eligible to marry the woman. This method has since vanished from the community, though its historical presence in Tebessa, the studied local community, is documented here by the researcher.

1.6 Electronic Needle Tattooing Technique:

The technological revolution witnessed by humanity has broadly impacted various fields, leading to the emergence of modern, precise techniques that have reshaped human culture and influenced behaviors. Tattooing techniques have evolved alongside these advancements, giving rise to precise machines that refine the process of tattooing. This

development has transformed body tattoos in terms of form, color, application methods, and visual appeal. It has also shifted societal perceptions of tattooing, elevating it to a cultural commodity within the global cultural marketplace. Tattooing is now classified as part of the fine arts, particularly in industrialized countries, where it has undergone transformations that position it as a marketable cultural product.

The commercialization of tattooed bodies has expanded into sports, art, performance, and promotional industries, as well as the commercial beauty market. This modern leap has rapidly popularized tattooing and integrated it into the cultural marketplace, where it now holds a competitive position within the visual and fine arts domains. Tattoos have gained dedicated exhibitions, salons, and even annual global festivals in major world capitals. As a commercial enterprise, tattooing has spurred the creation of specialized salons, thus supporting segments of both the cultural and commercial economies.

Image No. 24: This image represents a three-dimensional (3D) tattoo. The image was sourced online from *Trends Magazine*, in an article by Jad Mouheidly titled "3D Tattoo," published on January 20, 2018, at 10:00 AM.



Tattooing has transitioned into modernity through advanced tattoo imagery techniques, elevating it as both an aesthetic and cultural product. Three-dimensional (3D) tattoo imagery, in particular, provides an illusion of depth, making the artwork appear almost touchable. The aesthetic quality of these tattoos is marked by extreme precision, visual appeal, and complex color blending, all achieved through the new automated needle technique. This method is distinguished by its ease of use, speed, accuracy, and reduced pain compared to traditional tattooing techniques.

However, the use of automated needles carries several potential health risks. The pigments introduced under the skin may increase the risk of skin cancer over time. Additionally, the risk of disease transmission, such as viral hepatitis and HIV/AIDS, remains if needles are not properly sterilized, potentially leading to infections and other serious health issues.

2. Tattoo Removal Techniques:

Some individuals with tattoos may seek their removal, often due to various ideological, religious, or social reasons. Religious motivations, particularly among practicing Muslims, may lead to tattoo removal, as tattooed bodies are viewed as defying divine will. This perspective aligns with an Islamic Hadith: "May Allah curse the tattooer and the one who gets tattooed..." (al-Shafi'i, 1972, p. 493). Additionally, social requirements can prompt removal, such as eligibility for certain public sector jobs, where tattoos can bar individuals

from positions in police, military, or national guard roles. Some also seek tattoo removal to disassociate from groups perceived as having criminal affiliations, as tattoos are sometimes culturally linked with criminal subcultures in the studied community.

Tattoo removal techniques range from basic to advanced, though most fail to completely erase the tattoo and may leave skin disfigurement. Below are various tattoo removal methods that will be discussed.

2.1 Natural or Spontaneous Tattoo Fading Technique:

Over time, natural physiological processes within the body can gradually reduce the vibrancy and intensity of tattoo colors on human skin. Complete fading is rare, except in cases where the tattoo was originally done with crimson ink, which may vanish after a certain period. Other colors may lose their vibrancy but seldom disappear entirely. For example, sweating—a natural bodily function—can, over time, diminish the brightness and sheen of a tattoo, fading its color to the point of near invisibility. This natural process affects most tattoo pigments, except those with a carbon-based composition. Additionally, exposure to environmental factors can induce chemical changes in the pigments, further altering the color and brightness of the tattoo.

2.2 Physical Friction Technique for Tattoo Removal:

Image No. 25: This image depicts the removal of a tattoo through physical friction using an acid-base solution technique. The tattoo originally displayed the names of the individual and his lover; however, after marriage, he sought to conceal his ex-lover's name from his wife.



This technique has been observed among some individuals in the studied community and is known to be significantly painful. The pain associated with tattoo removal through this method is reportedly much more intense than that experienced during the tattooing process itself. The procedure involves rubbing the tattooed area with an acid-base solution (commonly a battery acid solution), which, when applied to the skin, causes the skin to erode along with the tattoo pigments. Although the tattoo may be removed, this process often results in skin deformities.

Another method involves scraping the skin with a scalpel until the skin layers are worn down to the tattoo pigments for their removal. This technique is also extremely painful and typically results in swelling and inflammation of the skin. Healing from this procedure may leave behind significant scars. Both of these methods are notably common in the local community under study (Tebessa, located in eastern Algeria).

2.3 Skin Cauterization Technique for Tattoo Removal:

This technique is an ancient method that has been found among some individuals in the researched community. It relies on cauterizing the skin using burning materials, such as lit cigarettes or heated metal implements (like a rod or knife). These items are heated until they glow red and then applied to the tattooed area until smoke rises, accompanied by the smell of burning human flesh. Following this procedure, the skin typically swells and becomes inflamed, leaving behind scar tissue. This method is considered to be even more painful than the original tattooing process.

2.4 Laser Tattoo Removal Technique:

This technique emerged alongside the significant technological advancements affecting various fields, offering a method for tattoo removal that is relatively painless and time-efficient. However, it is also quite expensive, which limits access for many individuals seeking to remove tattoos from their bodies.

Despite its modern development and widespread use, laser treatment may not fully restore the skin to its original condition, particularly in cases involving bright or dark colored tattoos. Residual marks can remain visible on the skin upon closer inspection. Ongoing technological advancements aim to refine laser techniques further to address the challenge of achieving complete and permanent tattoo removal.

Conclusion:

The allure of the tattoo artist's skill in the punitive space captivates bodies, making them willing to embrace the culture of tattooing through the ritual of body ismarking. A tattoo is a painful inscription made through dots, and conversely, it consists of designs etched onto the skin by piercing needles, beginning with the selection of a tattoo model—either from the artist's creativity or the wearer's imagination, condensed into a story or symbol. Subsequently, the design is applied to the chosen part of the body, with the needle puncturing the skin layers to inject colored pigments into the lower layers of the skin, accomplished with remarkable precision and the enchanting artistry of tattooing, resulting in a permanent design that intimately connects the individual to life.

From this analytical exposition, we conclude that:

- Technique is among the components that shape culture, susceptible to change, and contributes to social transformations.
- The various tattoo techniques and the tattoo as a cultural product circulate within the cultural market of the studied local community, thereby becoming significant in the cultural economy and, consequently, in the financial market.
- The tattooing technique, as executed by the tattoo artist while crafting the design on the body, signifies a touch of change and the creation of bodily transformation,

imbued with new cultural meanings. The tattooing technique produces new cultural bodies that embody the dynamics of change and transformation, leading to social changes.

Supporting our argument, Muhammad Jawad Abu al-Qasimi states, "Technique is one of the components that shape culture, differing from other components of culture in that it is more susceptible to change than others; thus, it is likely to lead to social transformations." The tattooing technique has evolved due to technological advancements, transitioning from a primitive method relying on sharp instruments that inflict significant pain during the tattooing process to a technique that utilizes a fine needle, which causes less discomfort than the older methods—meaning the pain occurs mainly after the tattooing process.

The emphasis on words spoken by individuals in the sample illustrates that the skin serves as the body's facade, into which colored ink is injected through repeated and continuous piercing by the tattooing needle, transforming its appearance into a tattoo that carries distinctive meaning and symbolism, effecting a physical change that fosters a cultural phenomenon. This creates a symbolic space for the tattooing technique, which contributes to tattoo-related changes and, subsequently, social transformations.

Thus, the tattooing technique is a cultural component, prone to change and contributing to social transformations. The act of tattooing evolves from a human action imbued with subjective meaning or purpose that justifies the agent's activity to a social act laden with cultural and social signifiers. The actions of the tattooed individual confer meaning to their identity, directing the behavior of others—an act performed by the self that influences or is influenced by others. This social act can theoretically be aligned with Weberian sociology, which establishes that "the characteristic of social action applies to all human actions directed at the behavior of others, associated with a shared meaning."

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