

# Analyzing the Forensic Significance of Tattoos and their Relevance in India

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## Abstract

This research paper envisages to throw light on the forensic importance of tattoos in investigation and identification from a global perspective. It also aims to analyze the relevance of tattoos in forensic science in India. The authors highlight that with increased passion and popularity in body modification, sometimes, tattoos are the only evidence that the judiciary solely depends to identify and convict an accused. Thus, tattoos play a significant role in criminal justice system. However, sole reliance on tattoos in this regard may not deliver precise conclusion as there are psychopathological and scientific gaps involved.

This research paper is divided into two segments – Part I and Part II, to analyze and substantiate the objective of the paper with judicial and legislative backing. Finally, the paper provides recommendations which may improve the effectiveness of tattoos in forensic analysis and judicial proceedings in India.

**Key Words:** Forensic Analysis, Tattoo, Tattoo Inks, Psychopathology, Criminal Justice System, Indian Evidence Act.

## Introduction

Tattoo is a non-verbal form of expression. It is derived from *Polynesian* word 'Ta Tau' meaning 'to mark.' Tattooing is the process of making a tattoo which is done either mechanically or by electrical device. It involves designs made by multiple small puncture wounds which are made through the dermis layer of the skin with needle or similar penetrating tools dipped in coloring dyes. In Indian tribal culture, the process of tattooing is also known as 'Gudna'.<sup>1</sup>

### Need and Relevance

Tattoos were associated previously with sailors, prostitutes, slaves, and lower class<sup>2</sup> but over the past three decades tattooing has shifted from being a

taboo to being the modern fashion and an acceptable form of expression. 10% to 16% of children between the age of 12 to 18 years and 9% of general population in USA are reported to have permanent tattoos.<sup>3</sup> Also India's tattoo industry is estimated to generate Rupees 20,000 crore every year.<sup>4</sup>

The forensic study and interpretation of tattoos is helpful in body identification. This has been observed in *Joginder Case*,<sup>5</sup> wherein the dead body was identified by the tattoo markings on the hands. Thus, useful information about deceased's history may be obtained, such as military tattoos in service personnel, anti-police messages in ex-prisoners, marijuana leaves or mushrooms in illicit drug users etc.

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*Therefore, this research is necessary and relevant as it highlights the significance of tattoos in forensic identification which is helpful during judicial proceedings in India.*

### Research Methodology

**Doctrinal Method** and **Secondary sources** like books relating to 'Forensic Science' *inter alia* internet sources and published works of intelligentsia were referred.

Research tools include:

1. **Books** - related to Forensic Science on Tattoo Pattern Analysis were referred which developed an understanding of the relevant concepts like tattoos, and psychopathology.
2. **Online research resources** - were taken into consideration to seek the correct position of law on the subject.

### Discussion

#### PART- I

#### 'Significance of Tattoos in Forensic Science'

##### History of Tattoos

Tattooing has been practiced since ancient times with evidence backing to the upper-Paleolithic age (38,000-10,000 BC) and from 11<sup>th</sup> dynasty of ancient Egypt.<sup>6</sup> Mummified and preserved remains from the Bronze Age have been found with tattoos. Archaeologists also found 12,000-year-old tattoo tools in France, Portugal, and Scandinavia. The oldest documented tattoos belong to 'Otzi, the Iceman,' from European Alps over 5,000 years ago. Tattooing continued into the Iron Age where proof was found which date backs to 6<sup>th</sup> and 2<sup>nd</sup> centuries.

Tattoos in Greek and Rome marked slaves and criminals. Early Christians also used tattooing as a secret way of recognizing each other. But soon that practice died out in Europe at least for a millennium until the British Naval Captain, James Cook brought back tattoos from a 1769 voyage to Tahiti. Over the years tattooing spread across world and presently it exists in diverse and complex designs.

##### Types of Tattoos

Tattoos comprise 3 broad categories namely - purely decorative, symbolic, and pictorial. In

addition, tattoos can also be classified based on their durability, content, and the classification done by the American Board of Dermatology (ABD) as follows -

#### 1. Permanent and Temporary

Permanent tattoos last for a lifetime, whereas temporary tattoo can be drawn, painted, airbrushed, or needled in the same way as permanent tattoos, but with an ink which dissolves in the blood within 6 months.

#### 2. Criminal and Non-criminal

Criminal tattoos are associated with crimes, criminals and often showcase gang membership and record the wearer's personal history such as his/her skills, specialties, accomplishments, etc. Non-criminal tattoos are those which are not criminal tattoos and do not reflect any conflict with law.

#### 3. According to American Board of Dermatology (ABD), tattoos are classified under 5 groups namely-

- Amateur tattoos - It can be applied by anyone who is not a professional, at home, using needle and a bottle of Indian ink. This tattoo is often of a single colour and penetration can be of varying depths.
- Professional tattoos - Created by a trained practitioner at a salon or tattoo parlour. It contains several colours and is applied uniformly beneath the skin.
- Cosmetic tattoos - These are used to hide surgical scars, imperfections, etc., and are designed to look like a make up. It is done on the parts of eye lids, nose, lips, face, and eyebrows.
- Medical tattoos - Used to treat a condition, communicate information, or mark a body location. Example: army dog tags, patient suffering from chronic disease or allergy may have a tattoo which informs the person's blood type, etc.
- Traumatic tattoos - Created when foreign bodies forcibly enter into the dermis layer. They are permanent and non-voluntary tattoos. Example: Coal miners may get this tattoo due to coal dust.

## Permanent Tattoo Mark

Mostly the pigments used in tattoos include indigo, cobalt, carbon, china ink, cinnabar, vermilion, Prussian blue, etc. Usually black pigments (Indian ink) are permanent whereas vermilion, cinnabar naturally disappear after at least 10 years. The tattoo marks may fade away within 8-10 years:

- (i) If pigment is placed in the sub-epithelial level,
- (ii) If imprinted on the exposed parts of the body (exposure to sunlight),
- (iii) If imprinted on those parts of the body which are subjected to constant friction.

## Scientific Methods of Interpreting Tattoos

In cases where the body got decomposed, methods like X-Ray-Fluorescence (XRF) Spectroscopy, Attenuated Total Reflectance-Fourier Transform Infrared (ATR-FTIR) Spectroscopy, and Scanning Electron Microscopy-Energy Dispersive Spectroscopy (SEM-EDS) techniques can be used. These techniques also help when visualization of tattoos is hindered by the discoloration of the skin.<sup>7</sup>

To reveal latent tattoo marks, high contrast photography, computer image enhancement and ultraviolet lamp or infra-red photography techniques are used. Tattoo marks on unidentified bodies may be photographed with sharp definition.

Example: *Dambele Case*,<sup>8</sup> where the dead body had been floating in a pond for considerable time. If the tattoo mark is invisible or has been removed artificially, the pigments used to produce them may be detected in the nearby lymph gland, by historical examination.

Tattoo marks are to be examined with respect to their anatomical situation, size, number, color, design etc. Also, the diagrammatic or photographic representation has more value.

## Analysis of Forensic Significance of Tattoos

*Arguments which substantiate the importance of tattoos in forensic science are pointed out as firstly*, tattoos are distinguishable features and provide information about the tattooed person. They provide *point of recognition* which often helps in criminal cases

where a victim or accused needs to be *identified* but the recognizable features (face, fingers) are disfigured, removed, or damaged. In *Mohd. Sajjad Case*,<sup>9</sup> the face of the murdered victim was disfigured and his identity was obtained from the tattoo marking which named him 'Ramchandra Singh'.

*Secondly*, certain tattoos in different global regions convey specific meanings, which further helps the investigating officer to get an insight about the tattooed person's beliefs, activities or even associations. Example: "ALKN" is used for the gang- 'The Latin Kings' (based in Chicago). Thus, identifying a tattooed member with gang affiliations can provide a crucial lead in solving a crime.

Additionally, analyzing the meaning of a tattoo, its design and location on the body, helps to understand *psychology, sexual and criminal behavior* of a person. Also, the *chemical analysis* of inks can help in determining the organic and inorganic composition of a tattoo which can provide an insight about where that tattoo was made.

*Thirdly*, tattoos establish relationship with mental disorders, risky behaviors, and personality traits. Example - risk-taking, alcohol, drugs, sexual abuse, violent nature, history of childhood trauma, smoking and anti-social personality disorders combined with tattooing can indicate the *risk of crime*. **Thus, tattoos are significant in forensic examination.**

*However, there are reasonable arguments which limit the use of tattoos in forensic examination. Firstly*, though tattooing is common among the youth, psycho-social studies point out that tattooing behavior is quite *controversial* because of its association with deviant minds. As there is *limited knowledge* linking tattoos with high-risk behaviors, which further presumes criminal behavior, is judgmental in nature.

*Secondly*, it causes *prejudices* with respect to guilt and trustworthiness of tattooed person. A tattooed-Accused is considered to be untrustworthy and require less evidence for conviction verdict than a non-tattooed person in the court of law.<sup>10</sup> A tattooed-person is perceived in general to be less-fashionable, athletic, intelligent, caring and religious than non-tattooed person.<sup>11</sup> Also, tattooed-person is stereotypically associated with lower social-class groups but not with upper social-class.<sup>12</sup>

Therefore, a tattooed-person is presumed to commit a crime and if he/she commits a crime, then he/she is presumed to become a repeated offender only due to the presence of tattoo. The facial tattoos also bias the outcome of a trial thereby, continuing criminal stereotypes linked with tattoos despite their considerable occurrence among general public.

*Hence, tattoos hold significance in forensic science, however, it has its limitations which must be observed carefully while considering them in the judicial process.*

**PART- II**



**'Relevance of Tattoos in Forensic Science in India'**

**Historical and Socio-Cultural Perspective on Tattoos**

In India, tattoos were worn in many occasions such as in weddings, to award bravery, commemorate an event or person, performing spiritual or religious practices, for jewellery, recreation etc. However, the most important purpose of tattooing was to mark the family members with the patterns belonging to tribal cultures.<sup>13</sup>

Few of the major tribal tattoo patterns in India are depicted in pictorial and tabular manner:

**Table 1: Classification of major tribal tattoo patterns with specifications.<sup>18</sup>**

S. No.	Name of Tribe	Region	Pictorial Depiction	Specifications (if any)
1.	Bhil Tribe	Madhya Pradesh, Rajasthan, Maharashtra		Members are usually agriculturists.  Follow Hinduism.  Tattoos represent goodness and afterlife.
2.	Rabari Tribe	Gujarat		Members follow Hinduism.  Tattoos represent strong faith in magic and goodness.  Tattoos are also to attract opposite sex.





For the medieval period, there were accounts of Hindu and Islamic Rulers who promoted tattooing. However, there has always been prohibition of tattooing in Islam.<sup>14</sup> With the advent of the British Rule, Christianity rapidly propagated especially in North-Eastern India, Goa, and South India. As Christianity prohibited tattooing, tribal tattoo culture suffered significantly.<sup>15</sup>

Today, the presence of tattoos depends on certain factors such as sex, age, caste, religion, and family size in India.<sup>16</sup> In India, 65% of women are indulged into tattooing whereas, only 27% of men have tattoos. Also, for men, the common designs are names, religious symbols, and insignia of an associated organization/team/group. For women, it was found that there is a huge variety of tattoo patterns adopted like abstract art designs, plants, animals etc.<sup>17</sup>


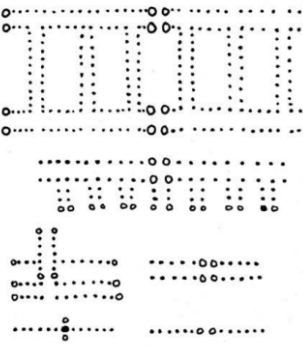
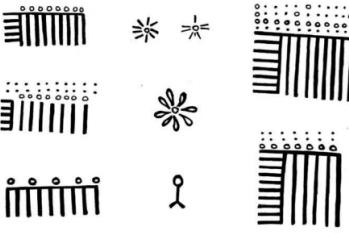
**Kinds of Tattoo Patterns in India**

India harbours a large variety of tattoo patterns from various tribes. Each of these tattoos have unique and distinct artistic characteristics, methods, ink, and psychological aspect.

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3.	Kol Tribe	Maharashtra		<p>Members are landless community and agricultural labourers.</p> <p>Represent animism, faith in nature and kindness.</p>
4.	Baiga Tribe	Chhattisgarh, Madhya Pradesh		<p>Members are local forest dwellers and agriculturists.</p> <p>Follow Hinduism.</p> <p>Tattoos represent fire, flora and fauna.</p> <p>Believed that the pain of tattooing prepares a girl for child-birth.</p>
5.	Santal Tribe	West Bengal, Bihar, Jharkhand, Odisha		<p>Members practice settled cultivation.</p> <p>Follow Hinduism and Christianity.</p> <p>Odd number of tattoos signify life and even number - death.</p>
6.	Konyak Tribe	Nagaland		<p>Members are shifting agriculturists, businessmen, carpenters, and weavers.</p> <p>Tattoos represent bravery, spirituality, achievements, and family relations.</p>

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7.	Apatani Tribe	Arunachal Pradesh		<p>Members are forest dwellers and practice shifting agriculture.</p> <p>Tattoos are used to make women look ugly to protect them from being kidnapped.</p>
8.	Toda Tribe	Tamil Nadu		<p>Members are pastoralists and agriculturists.</p> <p>Follow Hinduism and Christianity.</p> <p>Tattoos are believed to keep them safe and help in finding ancestors in the afterlife.</p>
9.	Kota Tribe	Tamil Nadu		<p>Members are agriculturists.</p> <p>Follow Hinduism.</p> <p>Tattoos represent unity, simplicity and strength.</p>

**Analysis of Relevance of Tattoos in India**

Advocating the relevance of tattoos in India, one may argue that *firstly*, tattoos have immense evidentiary value in Indian Criminal Legal System. The legislature has put importance and reliance on tattoos in the light of *Section 9 of Indian Evidence Act, 1872*.<sup>19</sup> This section states that the facts which explain or introduce the relevant facts involved in the case, or are required to establish the identity of a person/ thing, are ‘relevant facts’.

Inferentially, *identification* of a thing or person, as per *section 9*, can also be done based on a tattoo mark [*Shankar Case*<sup>20</sup>] in which the police was able to identify a headless dead body solely based on the tattoo mark on the arm. In *Shailendra Case*,<sup>21</sup> the court opined that the maker of a tattoo can also be produced as a witness.

*Secondly*, forensic analysis of tattoos allow prosecution to formulate a story. Based on the condition of the tattooed-skin, the manner of conduct of crime can be calculated. In *Dattatraya Case*,<sup>22</sup> the prosecution weaved the story based on the fact that the injury of the gun shots had tattoo marks at the edges. It revealed that the gun shot was taken from a very close range. Thus, the suspicion was shifted onto the son of the deceased, who was standing closest to him.

*Thirdly*, tattoos do not disappear even when the body is decomposed or deeply burnt. This makes tattoos extremely reliant in cases where the body is decomposed or is burnt. In *Uddhav Case*,<sup>23</sup> a heavily decomposed and decayed body was identified solely based on the tattoo mark on the left hand of the deceased which indicated “Apurna Waman Santosh

Pawar" with depiction of Lord Hanuman. *Thus, tattoos make sufficient evidence, and play a critical part in criminal investigation.*

However, there are also risks and limitations that should be observed while considering tattoos in criminal investigation. *Firstly*, due to westernization and urbanization, the *distinctive nature and uniqueness of the tattoos has gone redundant*.<sup>24</sup> The western tattoo patterns depicting quotes, artists, pop-culture references and many others have been welcomed by the urban and tribal people in India. Therefore, tattoos are no longer the marks of societal identification and sole reliance on tattoos is problematic.

*Secondly*, the *tribal culture of tattoos is fading in India due to governmental bans*. Example: Apatani Tribal method of tattooing was banned in 1970. *Lastly*, certain tribal groups are naturally vulnerable and thus, their *tattooing pattern is at the edge of extinction*.

Therefore, although tattoos still hold the importance in forensic identification, they have somewhat compromised with their relevance as to identification of psychopathological traits.

### Conclusion

We can summarize that tattoos hold importance in the field of forensic science when it comes to identifying the person and his psychological and sociocultural traits. However, the uniqueness of the tribal tattoos is fading with the rise in western influence in India. This has taken away the capability of the Indian tattoo patterns to precisely identify the psychological and sociocultural information.

For a long period of time, tattoos were studied for their historical and cultural aspects, but in recent times its shift towards psychoanalysis is noted. Also, the study related to tattoos and their health complications are rising.

Henceforth, the authors proffer the following **recommendations** for enhancing the role of tattoos in forensic science:

1. Creating and maintaining a tattoo catalogue database, containing information and photographs of tattoos, their history and meaning which may help in solving cases in easier manner.
2. Tattoo identification must be scientific, accurate, and reasonable. If not, it should be unaccepted and ignored. Otherwise, it will cause confusion and bias in recognising a person. Therefore, putting an innocent in trouble for having a criminal tattoo.
3. In cases where guilt is uncertain and the defendant wishes to cover visible tattoos, the court must grant the right to do so. This will help in reducing the bias caused in the mind of judges while delivering judgement.
4. The tribal culture must be protected to maintain the uniqueness and distinct nature of the tribal tattoos. Government should strengthen the legislation and administrative authorities that look after the tribal groups and schedule castes.
5. As tattooing serves as an easy, visible, and clinical marker, its presence during any forensic examination must be studied and assessed in-depth by a forensic psychologist or psychiatrist only.

Contemporarily, around 4 in 10 people have a tattoo. Irrespective of sex, age, race, occupation, and geography, after fingerprints, it is tattoos which play an important role for identifying suspects and victims in solving criminal cases. Hence, this importance must not be overlooked albeit they are a secondary mode for identification.

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