

## Traced Forgery – A Case Study

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### **Abstract:**

*In today scenario signature has great importance, as every individual signs his or her name once daily or several times in a day. Due to frequent use of the signature, the question often arises that whether the signature is genuine or not. Signature Forgery simply means altering any signature with the intent to defraud which could be executed by numerous methods. One of the method which is discussed in this case is traced forgery, which means reproducing the exact copy of the genuine signature. Traced forgery is executed by using carbon paper, indented tracing, tracing paper, transmitted light or scanned image. Forensic Document Examiner examines the every minute details of the traced signatures and conclude whether the questioned signature shows the resemblance and similar mathematical measurements in respect of model signature or not. Here in this paper, a case has been taken in which three disputed signatures is examined for giving probable conclusion. First the inter-se comparison of questioned is done followed by the comparison of signatures with admitted for finding the origin of the questioned signature. The result in this particular case, revealed that the three disputed signature exactly superimpose with slight adjustment.*

**Keywords:** Handwritten Signatures, Forgery, Tracing

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## Introduction

Handwritten signature is being used on regular basis, because of its frequent use it is always questioned. As many a time people tries to imitate the signature of an individual for their personal benefit or for harming an individual or an organization. Therefore there is need for verifying the signature to know who actually signed the document. But before understanding how to verify that the particular signature is genuine or not, first the concept of signature must be clear. Signature is generally defined as a name or a mark that a person puts on a document to authorize that the document has been crosschecked by him/her (Mathyer, 1961). The signature is classified into Formal signature, Informal Signature and Careless scribbled signature which the writer execute as per need or requirement (Saferstein, 1982). But currently the signatures are frequently the subject of forgery (Jackson and Jackson, 2011). Forgery means to dishonestly making, altering, or writing one's signature, which is usually tried by offenders in most of circumstances with the intention of making money from the acquitted parties (Lerner and Lerner, 2006). There are number of forger who prepare the forged documents either by trickery or by using different method of forgery such as tracing, simulation, transplanting, and computer generated document. The most commonly used method is tracing, a mechanical act in which forger imitates exact copy of the genuine signature. For tracing a signature the forger must have a model signature to copy and if the forger successfully execute the tracing then the forged signature will show exact mathematical measurement, which can be verified by using superimposition technique (Misra *et al.*). In current scenario, according to the forensic document experts, a traced forgery is the crudest forgery. Below mentioned are the different of tracing forgery (Sharma, 2003):

1. Carbon Copy Tracing – In this method, carbon paper is positioned between the genuine document and targeted document, then the signature on the genuine document is outlined with the help of a dry pen, stylus or any other pointed device with pressure. Carbon copy is completed with ink and pen.
2. Indented Tracing – In this method, the genuine document containing the model signature is positioned over the targeted document, then the signature is outlined with a sharp and hard point with pressure. Signature on the targeted document is covered with ink and pen.
3. Tracing Paper – In this method, tracing paper is positioned over the genuine document and a hard pointed pencil is used for obtaining the intended impression. Indented impression is completed by ink

4. Transmitted Image – In this method, genuine document is positioned on the top of the glass table and a light is passed from below of the table. This will help the forger in outlining signature from the genuine document on the targeted document which is inked later on.

5. Scanned Image – In this method, scanner is used to copy the genuine signatures and store the digital image of signature in computer and used in future as per required.

Hence, after concluding that the particular signature is forged the next question comes in the mind of forensic document examiner is to identify the forger. In the field of questioned document, identification of signature and handwriting is necessary (Levinson, 2001). The identifying feature that should be taken into consideration while dealing with traced forgery cases are as follows abrupt changes in the direction of the line, lack of fluency, more line tremors, pen lifts, blobs of ink, retracing, and poorer duplication of the line quality than free-hand forgeries. In carbon paper tracing method, residues of carbon along the inked lines under microscope, indentation which can be visible under Electrostatic Detection Apparatus (ESDA) (Hilton, 1939; Koppenhaver, 2002; White, 2004). Here in this paper, we had discussed a case on traced forgery with an aim to identify the method used for tracing and to know the origination of the questioned signature.

## Material and Method

This section of the paper describes the material and method used for conducting the examination of the unique case received at Sherlock Institute of Forensic Science, India. The material required for conducting the examination are photocopied signature sample of the case, hand lens, scales, pencil, transparent sheet, camera as shown in figure 1. For studying this particular case, the three disputed signatures were marked as Q-1, Q-2 and Q-3 which was obtained from Standard Instructions, Most Important Document (MID) and Addendum respectively and admitted signature marked as A-1, obtained from Bank Attested Signature.



**Figure 1: Material Used**

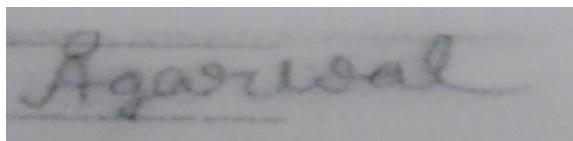
## Result

In this case, the questioned signature were marked as Q-1, Q-2 and Q-3 and admitted signature as A-1 were written as “r, i, t, u, a, g, a, r, w, a, l”. On inter-se comparison of questioned signatures marked as Q-1 to Q-3, mathematical similarities was clearly observed which indicated that forgery is executed either by paper tracing or glass tracing. Further when compared the features of signature via transparent sheet, it was observed that the questioned signature exactly superimpose with other questioned signature with slight adjustments as the forger also know that exact tracing will put them in trouble. The overlapping of the letters and strokes with each other executed with slight variations, which indicates the sign of traced forgery through transmitted light either by Glass tracing or paper tracing. During reconstruction process, it was found that it was a case of mechanical transplantation of one genuine signature on different targeted documents.

On inter-se comparison, the questioned signature marked Q-1 to Q-3 shows tremors, unnatural pen lifts, line quality defects. While during examination of every single letter formation, it was observed that the letter “R” of “Ritu” in all three questioned signatures were found exactly superimposing in respect of stem, counter and leg of “R”. Leg of “R” is the initial stroke of “i”, the crossbar with tapered end and downward extension of the stem of the succeeding letter “t” and garland type formation in letter “u” superimpose in all three questioned document with very slight adjustment as shown in figure 2. In word “Agarwal”, the hook formation in letter “A” and connection of crossbar of letter “A” with the initial stroke of letter “g” shows similar pictorial representation. Connection between letters “a, r, w, a, l” are consistent and superimpose in all three questioned signature with very slight adjustment as shown in figure 3.

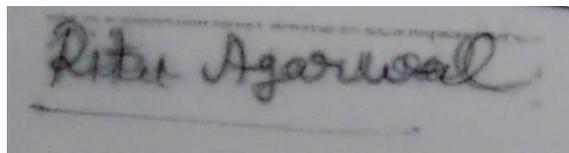


**Figure 2: Superimposing of Questioned Signatures in word “Ritu”**



**Figure 3: Superimposing of Questioned Signatures in word “Ritu”**

Further when the questioned signatures was compared with admitted signature for finding the origin of the signature, it was observed that the questioned signatures was superimposing with admitted signature with very slight adjustment as shown in figure 4. The similar mathematical measurement and overlapping of the questioned signature with admitted signature proves that the disputed signature must have been traced from the admitted signature either via glass tracing or paper tracing.



**Figure 3: Superimposing of Questioned Signature with Admitted Signature in word “Ritu Agarwal”**

## Discussion

In present study, a case has been taken in which the three questioned signatures were examined that whether they exactly superimpose or not during inter-se comparison followed by the comparison with admitted for finding the origination of the questioned signature. There are already a case study given by Misra *et al.*, in which he had studied a similar type of case. In which they concluded that 95% superimposition of genuine signature with forged signature will results into Traced Forgery on inter-se comparison. Here in this case study, it was clearly observed that the questioned signature shows similar mathematical measurement and superimposition during inter-se comparison. Further when compared with admitted signature, it was concluded that the questioned signatures must have been traced from the admitted only either via glass tracing or paper tracing.

## Conclusion

The basic principle of handwriting states that “No two writing can be alike of the same writer also” and the same principle applies in this particular case also. In this case, the questioned signatures shows similar mathematical measurement and exact superimposition on inter-se comparison and on comparison with admitted, concluded after the examining it with the help of transparent sheet. The observation extruded out from this case, proves that whatever method a forger will use to imitate the signature, it can never be executed as the genuine one of the genuine writer.

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