



Original Research Article

Evidential proof as questioned document examination report for criminal cases

Reeta R Gupta^{1,*}¹Central Forensic Science Laboratory (CBI), New Delhi, India

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ABSTRACT

Questioned Document examination is one of the very challenging fields in comparison with other branch of forensic science, and is well developed, scientifically valuable for the court of law. Document examination plays a very important role in solving civil and criminal cases related with fraud, forgery and counterfeit security documents. Forensic document examiner reveals the truth by obtaining the scientific information during forensic analysis of disputed documents related with any fraud and forgery. Over the past three-four decades, the various novel scientific methods have been developed, which have really helped the forensic document examiners in solving criminal cases however still it is not an easy task for any expert to solve high-tech criminal cases. The main objective of this manuscript is to focus on the important role Questioned Document Examination in solving criminal cases for more comprehensive understanding for evidential proof and significant role Questioned Document Expert of the in criminal justice system. The Forensic document expert provides the scientific proof of evidence as an expert opinion on criminal cases and scientific assistance by providing evidence as expert testimony in the court of law. On the basis of Questioned document examination report many of the cases solved and helped in taking judicious decision in criminal justice system.

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1. Introduction

This multi-level exposure to key problems allows the forensic document experts to envisage and develop solutions that are justified and multi-faceted for criminal case examination. Questioned Document is unique branch of forensic science and still growing with advancement of technology. Document examination plays a very important role in solving civil and criminal cases of fraud, forgery and counterfeit cases of security documents. Forensic document examiners reveal the truth by obtaining the scientific information during forensic analysis of disputed documents related with criminal cases of fraud and forgery. Over the past three-four decades, the various novel scientific methods have been developed, which have really helped the forensic document examiners in solving criminal cases however still it is not an easy task for any expert to solve high-tech

criminal cases. The main objective of this manuscript is to focus on the important role played by one of the unique branch of forensic science i.e. Questioned Document for more comprehensive understanding and its significant role of the in criminal justice system.

Questioned Document examination is one of the very challenging fields in comparison with other branch of forensic science. Forgery of certain kinds of signatures may be so successful that it cannot be detected by anyone, and especially cannot be detected by the inexperienced observer. If true qualified questioned document examiner gives scientific report it can be proof.¹⁻³ The identification of handwriting follows scientific principles and is reducible to the laws of exact science.⁴ Handwriting identification is more accurately described as a technique of scientific comparison of questioned and standard writing based on principle of handwriting science. A Principle and theory of forensic identification includes a thorough discussion of handwriting features, like pen scope, pen pressure,

* Corresponding author.

E-mail address: reetacbi@gmail.com (R. R. Gupta).

movement of writing strokes, curvatures and connection in between strokes in execution of letter, writing impulses which are the basis of handwriting examination.⁵⁻⁷ Handwriting report is still acknowledged in the court of law and is a vital instrument for detection of crime as well as administration of justice. Although there are a number of techniques used in the examination of documents, it is not beyond the ability of properly trained scientist to be able to tackle all to an adequate degree.^{8,9} The author of this research article as a scientist is looking forward to utilize self-enthusiastic scientific approach of advancement to develop the field of questioned document examination as productive and acceptable science in the court of law. The focused aim of the article is to avail through an opportunity to bring knowledge in a scientific community to share and discuss the acceptance of valuable questioned document examination which results as a proof of evidence in the form of opinion in criminal justice system. We can utilize the opportunity of modern science and technological advancement in every aspect which helps in endorsing the valuable result.

2. Role of Forensic Document Evidences

Handwriting science is well known field and has been developing through advancement in many ways over past years. The way we use scientific parameters for forensic document examination in solving various criminal cases and produce forensic evidences in court testimony, it helped criminal justice system in making judicious decision in variety of the critical cases. With technological upgradation and more advanced computerized instrumental facility the field of questioned document examination becomes more effective in acceptability of evidential proof through presentable scientific result. The basic concept of examination of questioned document in handwritten content, for the study of morphology of writing ink stroke or in printed matter related with machine generated document by utilizing the various light source arrangement with advanced instrumental facility, it is now possible to better understand how the writing strokes were made or what type of ink constituent are used in preparation of document; whether there is any addition, alteration or deletion of some content. The examination result not only visualized by naked eye, it can be store and produce in more scientific way before court of law. We are living in the world of technology where new research is constantly being developed by the growing scientist to better understand the handwriting science.

3. Important Cases Related with Handwriting Analysis

3.1. Case 1

Briefly the case that is explained was submitted by the railway vigilance, Government of India, to the Central Forensic Science Laboratory (CBI) New Delhi. In this case the certain document submitted for forensic analysis of questioned document in a matter arising out of at tender wherein the intended bidder had quoted initial rate against Part 'A' as 84.50 in figure and Eighty four point zero percent above in words and then modified the figure 84.50 as 89.50 duly striking out the figure four. Later on, the rates quoted/modified were entered in separate register where again correction in rates have been done by the concerned clerk. The text material was sent in the central forensic science laboratory for forensic examination of disputed document with questionnaire for confirming the rate originally written (strike out) on the document.

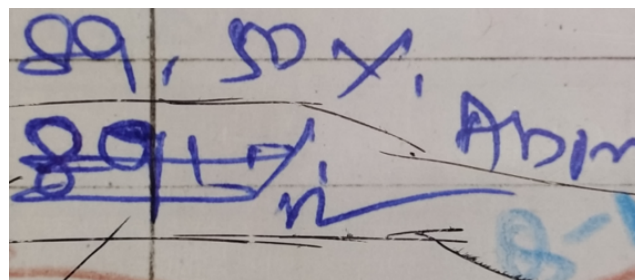


Fig. 1: howing Questioned document marked Q-1

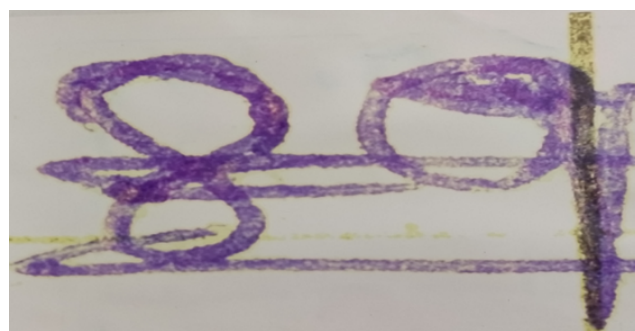


Fig. 2: Showing Decipherment of Questioned document marked Q-1

Microscopic, Video Spectral Comparator with arrangement of various light source, examination of Questioned Document marked Q-1 shown in Figure 1 reveals that the original figure was overwritten to the existing figure with similar shade of ink. The existing figure was read as 89. The original figure below the figure 8 when deciphered appears to read as 2. The original figure below the figure 9 when deciphered appears to read as 0 and 7

shown in Figure 2. This case was successfully solved by Forensic analysis of questioned document marked Q-1 through instrumental facility.

3.2. Case 2

The case was referred by Hon'ble court in which certain document was submitted in Central Forensic Science Laboratory (CBI) for forensic examination and analysis of disputed signatures in comparison with supplied standard signatures. Questioned signatures were marked as Q-1 to Q-4 Shown in Figure 3 and Standard signatures which contain both admitted as well as Specimen Signatures shown in Figure 4 . Admitted Signatures were marked as A-1 to A-8 and specimen Signatures were marked as S-1 to S-5.

Questioned Signatures marked Q-1 to Q-4 were scientifically examined and compared with the supplied standard signatures marked A-1 to A-10 and S-1 to S-5 shown in Figure 4 applying the principle of handwriting science. Handwriting examination revealed that there is a fundamental difference in execution of letter in between two sets of questioned and standard signatures hence the authorship of questioned signatures could not be connected with the standard signatures. The scientific examination reveals that of the two sets of signatures are fundamentally different in general as well as individual writing characteristic features. All the detailed comparison of both questioned and standard signature is depicted in Table:1.

4. Forensic Analysis of Questioned Signatures with Standard Signatures

The said case was scientifically examined for comparison of questioned signatures marked as Q-1 to Q-4 Figure:3 with the standard signatures where admitted signatures marked as A-1 to A-8 and specimen signatures marked as S-1 to S-5 shown in Figure:4. During the process of scientific comparison and examination it was observed that Standard signature shown in Figure:4 admitted signatures marked A-1 to A-8 and specimen signature marked S-1 to S-5 is written with free flow having excellent handwriting characteristic features in terms of identifying elements and significant features in the form of individual formation of letters as well as their movements of strokes in combination of letters, shape, size of individual letters, rhythm, skill and line quality of strokes, manner of connecting characters, curvatures in stokes while executing signatures, which were considerable factors for examination as well as comparison with questioned ones and for expression of an opinion. The specimen signatures marked S-1 and S-5 was written consciously, as executed before the court.

Interse examination of both admitted and specimen signatures reveal that both the set signatures are consistent with each other and suitable for comparison with

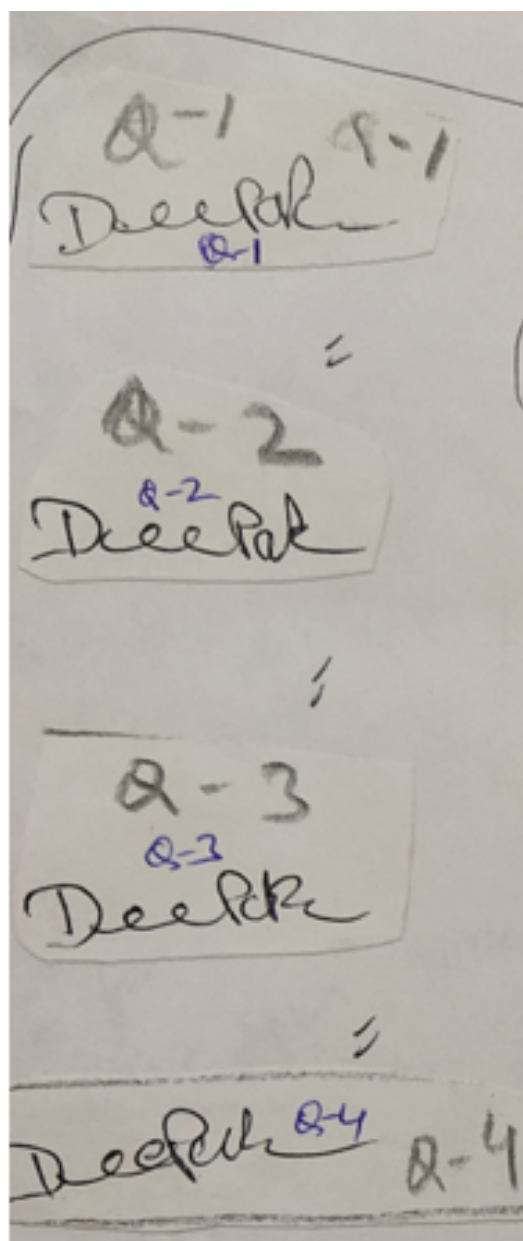


Fig. 3: Showing the Questioned Signatures marked Q-1 to Q-4

questioned signatures to arrive at any opinion. The handwriting characteristics were thoroughly examined to account for the questioned signatures writing characteristic features with admitted and specimen signatures writing characteristics features. Detailed scientific analysis and study of all significant and fundamental differences in writing characteristic features in between both the sets of signatures in execution of various letters i.e. “D”, “ee”, “p”, “a”, “k”, and strokes in the letters formation as well as combination of letters “ee” and “eep” in execution of signature read as “Deepak” between questioned and standard signatures which led to the identification of two

Questioned Signatures	English	Admitted Signatures	English	Specimen Signatures	English	Significant differences in between questioned and standard Signatures
	Q-1		A-1		S-1	Letter D with nature of its initial stroke, its curvatures, relative size and design.
	Q-2		A-2		S-2	Manner of combination ee with nature and shape of and design.
	Q-3		A-3		S-3	The fundamental difference in formation of letter p, in standard signatures it is connected with previous letter ee at the top of its staff and look like a letter k while in questioned signatures it is giving the appearance of capital letter P
	Q-4		A-4		S-4	Fundamental difference in execution of letter a between both questioned and standard signatures.
			A-5		S-5	Difference is also in execution of letter k and nature of direction of terminal stroke.
			A-6			Difference is in combination of letters "eep" between questioned and standard signatures
			A-7			Difference is apparent in execution of full signature read as Deepak.

Chart 1: Showing the comparison chart of fundamental difference in between Questioned English Signatures marked Q-1 to Q-4 and Standard English Signatures marked A-1 to A-8 and S-1 to S-5

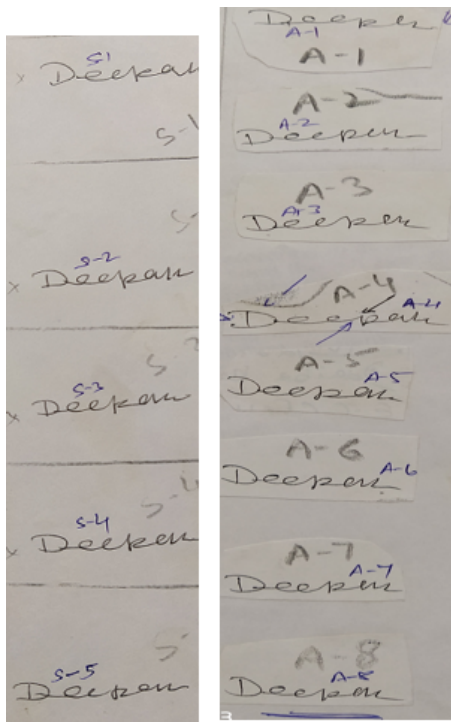


Fig. 4: Showing Standard signatures (Admitted Signature marked A-1 to A-8 and Specimen Signatures marked S-1 to S-5).

different authorship, in between questioned and standard signatures. The handwriting examination result reveals that the authorship of questioned signatures marked Q-1 to Q-4 could not be connected with the writer of standard signatures marked A-1 to A-8 and S-1 to S-5 as illustrated in Table 1. On the basis of cumulative consideration of all fundamental difference in writing characteristic features of questioned and standard signatures, conclusion was drawn to form an opinion that authorship of questioned signatures could not be connected with the authorship of standard signatures. The detail of comparative chart with some of the fundamental difference are illustrated in Chart:1 below:

5. Results and Discussion

In this paper author illustrated two cases, in Case No.1 the altered figure of written stroke was successfully deciphered by the help of instrumental facility. Forensic examination of Questioned Document marked Q-1 as shown in Figure 1 reveals that the original figure was overwritten to the existing figure with similar shade of ink. The existing figure was read as 89. The original figure below the figure 8 when deciphered appears to read as 2. The original figure below the figure 9 when deciphered appears to read as 0 and 7 shown in Figure 2. This case was successfully solved by deciphering the original figures below the existing figures.

Another illustrated case in this manuscript is one of the best examples of signature forgery. The Questioned English Signatures differ with the Standard English Signatures in their general and individual writing characteristics features in illustrated Case No. 2. Significant difference was observed in detailed manner of execution of signature as a whole appears to read as "Deepak" in both the sets of questioned signatures and standard signatures. Handwriting examination reveals that there was difference in general such as movement, slant, alignment, relative size, proportion of letters as well as individual writing characteristic features in combination of letters and initial strokes and terminal strokes in execution of signatures. Cumulative consideration of the all the points of differences which were fundamental in nature and beyond the range of natural variation observed between the questioned signatures and standard signatures which were taken in consideration so as to arrive at final conclusion. These illustrated cases are one of the excellent examples, showing the role of handwriting examination in solving criminal cases.

6. Conclusion

On the basis of illustrated cases, it is very apparent how the field of questioned document is helping in solving criminal cases. Demonstrated Case no.1 explained above is purely related with alteration of document, in which the original written content was successfully deciphered by the use of simple video spectral comparator while the another case is one of the best example of signature forgery case. All of the writing characteristic features considered, in addition to overall features such as size, slope, relative position, line quality, movement in strokes in execution of signatures to conclude the common authorship of questioned and specimen signatures¹⁰⁻¹¹. Over the years, the questioned document examination has been involved with the various technological developments and well recognized in the

court of law. Crime is very dynamic, the oral evidence depends on various scientific evidences based on the facts, and hence more focused effort is still required to develop this field of questioned document examination for better understanding at the grassroots level in favor of criminal justice system.

7. Source of Funding

None.

8. Conflict of Interest

None.

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Author biography

Reeta R Gupta Senior Scientific Officer II

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