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A critical study on standard parameters of handwriting examination – similarities and dissimilarities

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Abstract

While comparing handwritings of two different sets, the conventional method is to compare the class and individual characteristics. The class characteristics of two or more persons may show similarities but on the basis of similarities of class characteristics alone no final opinion of identity can be given unless it is followed by the comparison of most individual writing characteristics. However, in some rare instances it is exceptionally seen that even the most individual characteristics were concretely found similar, may be co-incidentally, in the handwritings of two different individuals. The present study is based on observations on handwritings of two great personalities Mahatma Gandhi and Sh. Rabindra Nath Tagore. Such findings being so rare and surprising need further analysis as to what could be the cause of such coincidental similarities of individual characteristics in the handwriting of two different persons. Such findings appear slightly contradictory to the well established principles of significance of individual characteristics.

Keywords: Handwriting, Class characteristics, Individual characteristics, Comparison, coincidental similarities.

1. Introduction

Handwriting is an acquired skill and clearly one that is a complex perceptual-motor task, sometimes referred to as a neuromuscular task. Skilled writing movements are so natural that one is inclined to overlook their complexity. In fact, writing is one of the most advanced achievements of the human hand. The development of writing is complex because it is, in part, culture dependent and cultures differ with locales and undergo constant change with passage of time. The evidence of this dependence is manifest in class, system or national characteristics. Writing is a continuous or flowing task, not one of discrete or separated actions. There are apparent interruptions at word boundaries but in many cases the pen movement may be continuous and uninterrupted although not recorded as an inked line. A feature of skilled performance and certainly of handwriting is that it involves the smooth execution of a structured sequence of coordinated movements in which each movement occurs at its proper time and place in the sequence¹. The particular pattern of these movements constitutes the habitual aspects of writing that are peculiar to each individual. The fact that, with practise and skill, the execution of writing habits becomes more automatic renders the writing process less subject to conscious control.

In the present study, when the genuine handwritings of two different individuals viz Mahatma Gandhi and Sh. Rabindra Nath Tagore were studied, there were found some coincidental similarities. The presence of common similarities which are found in many writings is the usual source of honest error in falsely connecting two handwritings. This is the common error of the inexperienced witness and many errors of this kind are made. The handwritings of Mahatma Gandhi (sample A) and Sh. Rabindra Nath Tagore (sample B) follow the like general style with certain similarities (figure 1 and 2) and, if similarities alone are searched for, as is often the case, an erroneous conclusion is not only possible but probable.

If error has to be avoided, a basic fact that must constantly be kept in mind in an investigation of the authorship of writing is, that handwritings by different writers in the same language, and especially those following the same system of writing, are bound to resemble each other in certain ways. As in many other phases of the investigation of documents, it therefore becomes necessary to analyse the resemblances and the differences

and give them their proper weight. The incompetent and inexperienced examiner is, of course, not qualified to do this and his ignorant findings should never be blindly followed. In any comparison allowance must be made for certain coincidences in writings by different writers which may even extend to certain modifications of system. Developed handwriting by different writers has certain habits of abbreviation and also some modification of proportions and size and other changes common to many writers, while other qualities in developed writing are rare or actually unique².

2. Material and methods:

2.1: Sample collection:

The handwriting samples of Mahatma Gandhi and Sh. Rabindra Nath Tagore were collected from the Gandhi museum at Rajghat, New-Delhi.

2.2: Sample preparation:

The content of handwritings of Mahatma Gandhi and Sh. Rabindra Nath Tagore were photographed for the purpose of comparison.

2.3: Tools:

Instruments used for handwriting comparison include a digital Nikon fm-10 camera, stereo microscope, scales, and various magnifying glasses.

Method:

The document bearing the handwritings of Mahatma Gandhi and Sh. Rabindra Nath Tagore were photographed and examined physically under various light conditions using magnifying lenses both in near and close range for minute observations of both class and individual characteristics.

3. Result and Discussion:

When both the sets of handwritings marked A and B, as shown in figures 1 to 6 were compared and examined in respect of class characteristics only then there were found similarities of movement, speed, skill, slant, alignment, and spacing between the words. The size and proportion of letters were found slightly different. When the comparison of individual characteristics was done, there were found very surprising individual characteristics in individual letter formations, their connectivity, crossing pattern of 't', the placement of 'i' dot which can be easily seen on the samples A and B, viz. the formation of words 'it', 'that', and in single letter 'd'. Most strong similarity was also observed in small letters 'a', 'd', 'w', etc., wherein the whole observation is tabulated in Tables 1, 2 and 3 respectively.

While studying the class and individual characteristics, various points were observed and summarized. Pen movement was found similar as all the genuine and matured writings with

rapid speed show similar wrist cum forearm movement. It is a similarity of class characteristic which is mostly common in genuine writings of different persons. Since both the documents are from genuine source and no sign of forgery were found, the line quality was observed to be smooth in both the cases. Speed is found rapid and similar because both the sets of writings have flying start and finish in the shape of garlanded connecting strokes. The skill is superior and similar because of the rapid movement. Both the sets show forward slant with straight and similar alignment. The size of letters of sample A is slightly smaller but in sample B is bigger. The proportion amongst two alphabets here is not similar. There is a difference in spacing pattern depending upon the moods and fancy of the writer depicting their individualities. The angle of the pen in writing is different in both sets. The writing in sample A shows natural variations in repeated words such as in, an, the, etc. Again in writing in sample B the natural variations are observed in repeated words but the range of natural variations in both is slightly different. The style characteristics are dependent on the culture, education, and national characteristics. Similar class characteristics are observed because of the similar style and national characteristics.

The surprising similarities in numerical figure "9" in the data figure 1919 in both the samples is seen in which the apex of figure 9 is concave having a eye like formation inside it. Word "that" in both the sets of writings showed a unique crossing of two letters "t" in horizontal fashion. In both the sets A and B where small letter "s" is independently placed showed similar form and formations and similar movement impulses. In sample A, the small formation of "d" in words 'beyond' and 'did' is similar with words 'stood', 'stand' in sample B. In sample A, small letter "a" of words 'as' and 'above' are similar with 'and & 'as' in sample B, in all these letters 'a', the apex is open. Letter "n" of 'not' of sample A is similar 'not' & 'non-anger' of sample B. In both the samples, the small letter "o" when it is placed as first letter it connects with the next letter in similar fashion as in words 'opinion' and 'other' & 'offer' in samples A and B respectively. In the last letter "n" in word 'can' in sample B and 'down' in sample A is similar which uniquely indicate similar movement of brain impulses.

The various class and individual characteristics show similarities of inconspicuous features of brain which may be because of the same intellectual and spiritual levels of the subjects. It throws some light on graphic maturity of handwriting traits and its thought patterns. The above mentioned similarities in handwritings of two great individuals may indicate almost the equal rate of evolution of their handwritings due to the passage of time and again may indicate the same goal and managing efforts and skills.

4. Tables and Figure:

Table 1: Comparison of Class Characteristics

S.No.	Parameters	Sample A (MG)	Sample B (RT)
1.	Movement	Wrist cum forearm	Wrist cum forearm
2.	Line quality	Smooth	Smooth
3.	Speed	Rapid	Rapid
4.	Skill	Superior	Superior
5.	Slant	Forward	Forward
6.	Alignment	Straight	Straight
7.	Size and proportion of letters	The size of small letter is slightly smaller	The size of small letter is slightly bigger
8.	Spacing between the letters	Slightly crowded	Slightly wider
9.	Shading	More at horizontal strokes	More in vertical strokes
10.	Pen pressure	Slightly less	Slightly more
11.	Pen position	Angle 30-40 ⁰	Angle more than 50 ⁰

12.	variations	Natural variations	Natural variations
13.	Style	More cursive	Less cursive

Table 2: Comparison of Individual Characteristics

S.No.	Parameters	Sample A (MG)	Sample B (RT)
1.	Numerical	Number 9 in 1919 is similar	Number 9 in 1919 is similar
2.	Alphabet S	Letter "s" of different words is similar	Letter "s" of different words is similar
3.	Alphabet d	Formation of "d" is similar	Formation of "d" is similar
4.	Connecting strokes	In word "that" is similar	In word "that" is similar
4.	i dot	The dots on letter "i" are in similar fashion	The dots on letter "i" are in similar fashion
5.	t crossing	The crossing pattern in alphabet "t" is similar	The crossing pattern in alphabet "t" is similar

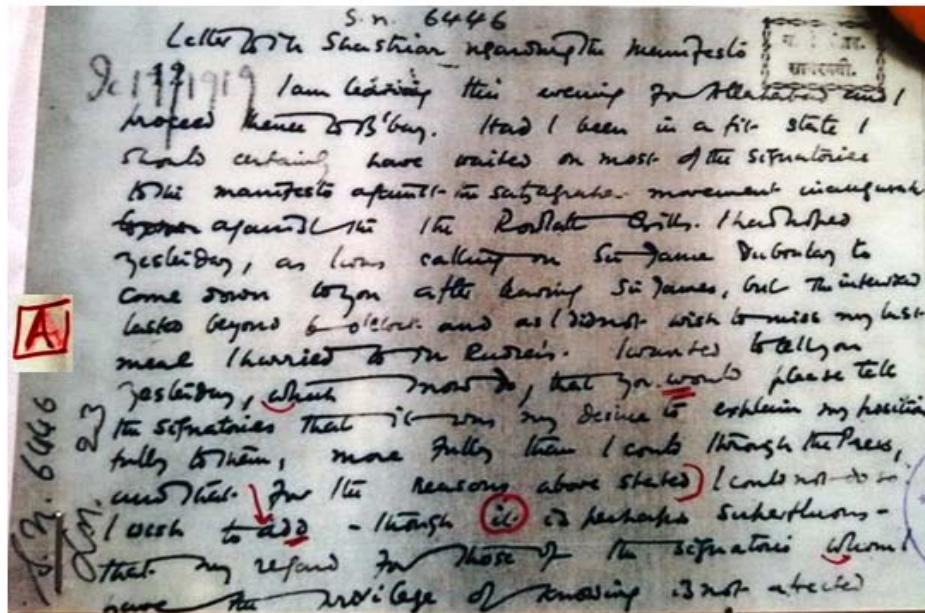


Fig 1: Handwriting of Mahatama Gandhi (Sample A)

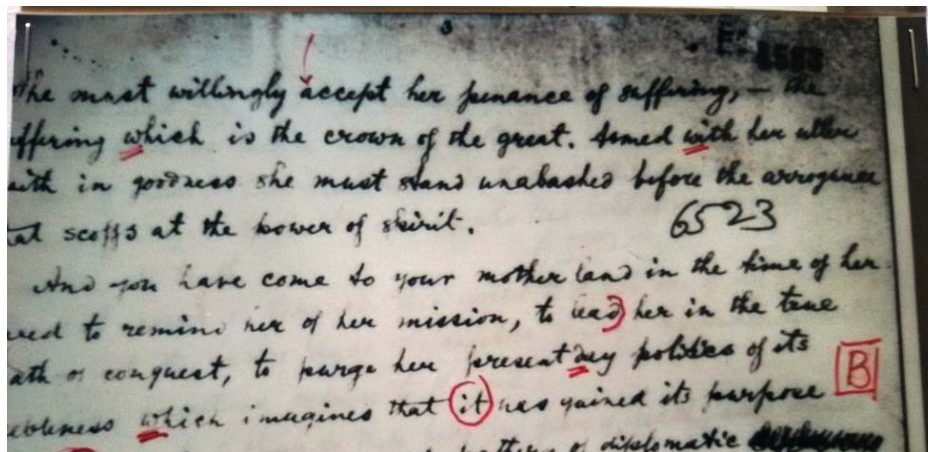


Fig 2: Handwriting of Sh. Rabindra Nath Tagore (Sample B)

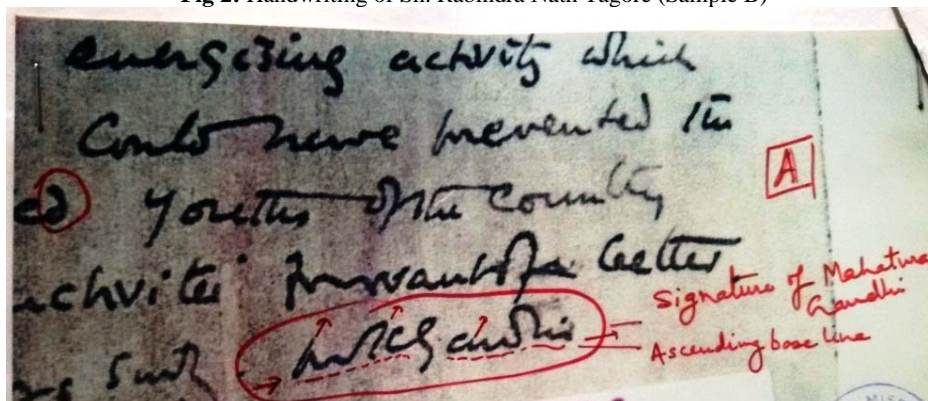


Fig 3: Handwriting of Mahatama Gandhi (Sample A)

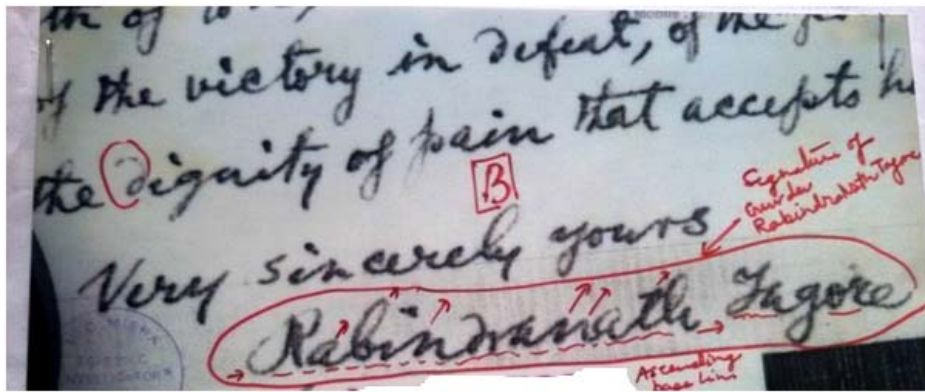


Fig 4: Handwriting of Sh. Rabindra Nath Tagore (Sample B)

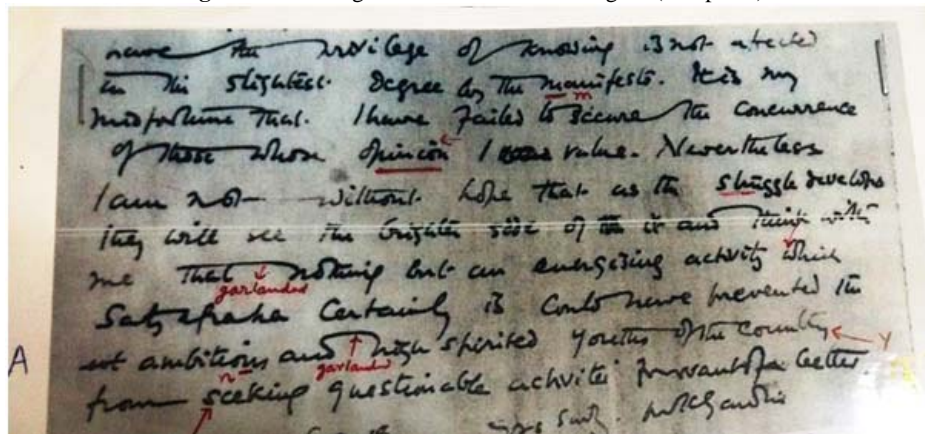


Fig 5: Handwriting of Mahatma Gandhi (Sample A)

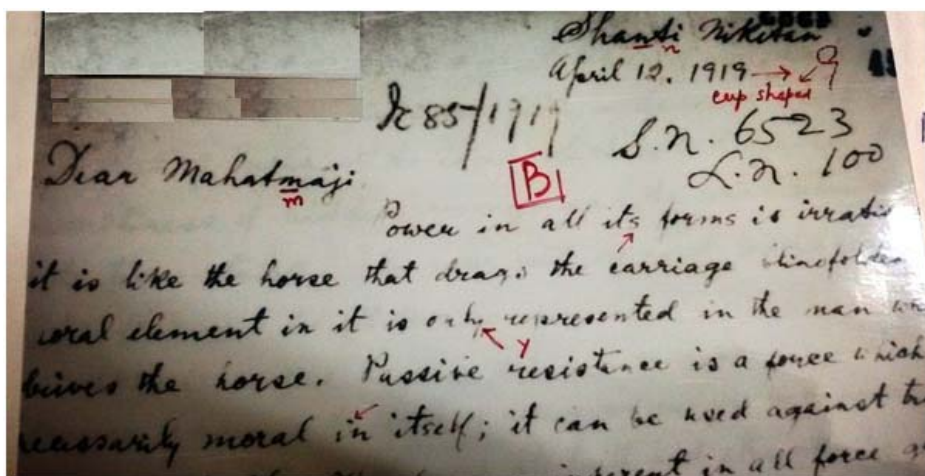


Fig 6: Handwriting of Sh. Rabindra Nath Tagore (Sample B)

5. Conclusion:

Since both the sets show very surprising similarities of individual characteristics in letters of common words, it became a matter of curiosity that how these results are not confirming as per the established principles of science. As it was not at all expected that the result could go beyond the well established identification principles of handwriting comparisons which says that individual characteristics would always be found different in the handwriting of two different persons. Here the findings are very different and surprising as it is well known to us that sample 1 belongs to Mahatma Gandhi and sample 2 belongs to Rabindranath Tagore and there is no confusion in two authorships then how such similarities of individual characteristics were observed in these two sets. There could be a controversy that these similarities could be co-incidental similarities but no three or four co-incidental similarities can be found in two sets of writings

which compel us to think beyond the general aspects of handwriting examinations. This study can open a new dimension when the highly matured handwritings of two legendary personalities have the same brain graphs and brain reflexes, which can further lead to understanding of brain's similar neurotransmitters.

6. References:

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