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THE IDENTIFICATION OF HANDPRINTING

JAMES V. P. CONWAY

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This paper presents a number of considerations pertinent to the scientific identification of individuals via their handprinting. These comments and conclusions are not portrayed as dogmatisms, or necessarily as original thinking on the subject of handprinting identification. They are simply the evaluation of some of the experiences by the writer and his colleagues in evaluating hundreds of handprinting cases passing through the Post Office Department's questioned document laboratories. These cases have of necessity provoked the writer to specialized research into handprinting identification problems. It is hoped that a report of our observations will direct attention to, and stimulate more thought and comment upon, this very important aspect of the scientific examination of questioned documents.

Very little has been said and less has been written by practicing examiners of questioned documents specifically concerning the identification of handprinting. Additionally, it must be conceded that a serious student of the available literature and, more particularly, a lay reader or a trier of fact in a dispute involving handprinting may reasonably complain of conflicting statements, statements which seriously conflict in principle. For example, that excellent work by Albert D. Osborn and his illustrious father, Albert S. Osborn, *Questioned Document Problems*, which was published in New York in 1944, states at page 120:

"An unusual problem that comes to the document examiner is the identification, not of script writing, but of words, or a whole letter in pen or pencil printing. In an unusual problem of this kind no dependence whatever should be placed upon an opinion by an inexperienced observer. The possibility of error is very great by one who has not made a special study of the subject."

Captain Arthur J. Quirke in his *Forged, Anonymous and Suspect Documents*, published in London in 1930, contrastingly asserts at pages 143 and 145:

"The determination of identity or non-identity as between two or more specimens of block capital writing is one of the easiest tasks which the analyst is likely to undertake. . . . The very simplicity of the lines and curves constituting the letters helps us, so much so that the degree of specialized training and observation so necessary for the analysis of script handwriting may to a large extent be dispensed with."

It is hardly necessary to point out that *Questioned Document Problems* and *Forged, Anonymous and Suspect Documents* are widely divided, concerning the relative complexity of at least some handprinting problems.

Even within a given authority, such as *Questioned Document Problems*, the treatment of handprinting gives rise to a measure of perplexity. For example, the Osborns state at one point that:

"It should be known that there is more variation in pen-printing by the same writer, as written on different occasions, than in script writing, especially with somewhat extended time intervening between the different writings. Habit does not become so fixed and automatic with pen-printing as with script writing unless one does pen-printing regularly, when printing habits may become as fixed as those in script writing."

However, appropos the procurement of standards in printing cases, the Osborns aver that:

"A smaller amount of pen-printing standard writing is usually required than of script writing, but in the identification of quite long letters, considerable writing, three or four pages, should be obtained."

In this writer's judgment, it is axiomatic that a larger amount of standards is requisite when "more variation" is encountered. It is not to be inferred that the same general principles so well enunciated by the late Albert S. Osborn in *Questioned Documents*, and by others, applying to the identification of script do not likewise prevail in the proper evaluation of handprinting. Rather, specialists devoting their full attention to the examination of questioned documents share a measure of responsibility for failing to lay bare the facts that the identification of handprinting requires the same techniques as the identification of cursive script, and that the identification of handprinting merits additional treatment and emphasis.

BASIS OF IDENTIFICATION

For purposes of this paper, script is defined broadly as the conventional style of modern cursive handwriting, the sort of penmanship commonly used by most of us in the normal course of our business and correspondence. Handprinting for purposes of this discussion, includes the noncursive printed capitals frequently referred to as block capitals or "lettering", and manuscript writing, sometimes referred to as lower case printing. No attempt has been made herein to trace the origin and development of these and other styles of printing or to adorn them with genealogically technical descriptions. May it suffice to say that the cited styles and their many variations, taken as a group, will serve to illustrate the controlling distinctions involved in the identification of script versus the identification of handprinting.

Integral elements of individuality in mature script lie in the letter connections, the effect of such connections on preceding and ensuing letter designs, and, most important, the fluidity of execution. The majority of our modern writers of script proceeds somewhat effortlessly by words, even sentences. The variety of movements and skills required in executing the essentially rounded script characters produces important bases of individuality. These particular bases are materially subtracted in the manual production of DISCONNECTED printed letters, many of which in turn embody DISCONNECTED components. This connection versus disconnection is one of the underlying factors necessitating a somewhat different approach to the identification of handprinting. An additional distinction is the circumstance that the average

writer is more conversant with script execution than with printing execution. Consequently, John Q. Handprinter exercises more mental control over the details of his printing handiwork than does his cousin, John Q. Script-Penman.

In block capitals and manuscript writing, it is patent that personal individuality rests principally in design selection, individual letter construction, size ratios, and punctuation habits. The initial step in a handprinting investigation should be the determination whether the questioned printing and the standard printing were accomplished with (1) a fluency of normal movement and a certainty of execution indicative of familiarity with and a measure of skill in handprinting, or conversely, (2) a conscious mental effort and non-rhythmic execution denoting either unfamiliarity with or disguise in the subject handprinting. On consideration you may say that such a step is obvious, and this writer agrees. But let him ask how many printing cases have you examined without fully taking this first step. Not a few but many times, examiners have been observed indulging the temptation to individual letter comparisons without first contemplating the method of execution of such letters as groups. A questioned printing or a standard printing should first be pondered objectively as a whole to evaluate the mental and manual circumstances of its origin. If an examiner can not satisfy himself whether questioned and standard printings of themselves are disguised or undisguised, far better that he refrain from individual subjective letter comparisons involving the sets of printings. If an examiner has not satisfied himself, let us say, whether the letter "E" as executed in a questioned and in a standard printing represents a normal, personal "E", it becomes virtually inconsequential whether the "E" is accomplished with 4 or 44 strokes.

CASE 1

This writer's attention was forcibly directed to the indispensability of first considering printings thoroughly as separate entities, prior to letter comparisons, by a case submitted about ten years ago. Involved was a series of printed postal cards and letters mailed in violation of the Postal Laws over approximately a thirty day period. The handprinting of two suspects was submitted. First the questioned specimens were considered. This revealed that they were all printed by the same person, that he was fairly well versed in the printing style in question, and that he did not inject disguise into the cards and letters. Consideration of the standard printing of Suspect "A" showed that his standard printing was not disguised and that he did not possess printing qualifications equal to those exemplified in the questioned specimens. In brief, Suspect "A" simply could not print well enough to have prepared the questioned specimens. However, it was then learned that this suspect had been "identified" from his handprinting by a recognized examiner of questioned documents. A divergency of views among examiners who have been presented with the same material is an extreme rarity in this writer's experience. The question necessarily presented itself as to the basis of the "identification" of Suspect "A". On deliberation, it seemed clear that the examiner plunged into the task of subjectively comparing printed letters without first evaluating the mental motives, the manual qualifications, and the mental-manual limitations surrounding the production of the whole of the questioned printing on the one hand and the whole of the standard printing on the other.

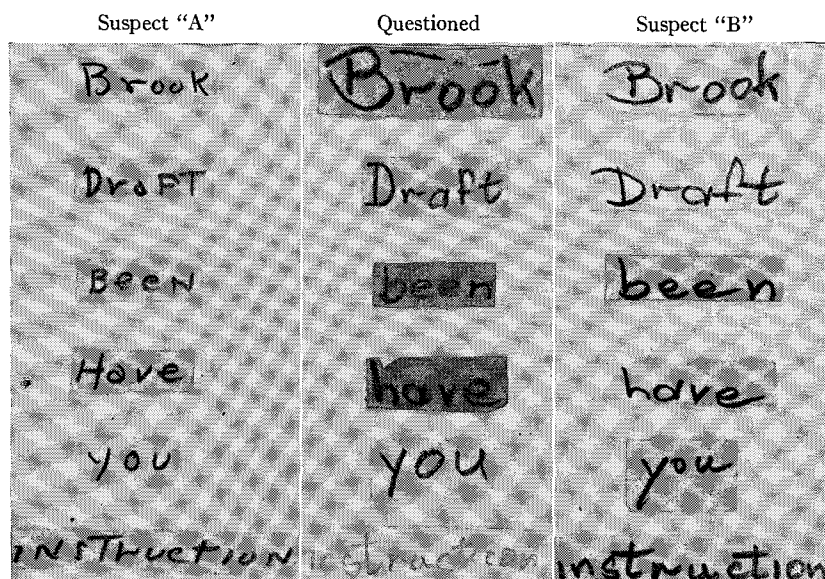


Figure 1

In Figure 1 under the caption "Questioned", are excerpted six key words from these questioned postal cards and letters. Juxtaposed under the caption "Suspect A" are these same words as written by Suspect "A". Your consideration is invited first to these six words groups individually, which are truly representative of the several hundred words from which they were excerpted. It is apparent that group "Questioned" represents fluid, undisguised printing by an individual with considerable familiarity in printing. Similarly, it is evident that group "A" represents undisguised printing. However, it is equally patent that group "A" exemplifies a printing norm embodying considerable less skill than group "Questioned" and accordingly as a whole indicates a second and not the identical author.

Subordinately, note the following points of difference in comparative letter construction: Beginning and terminating strokes of "B" and "D"; movement following the first upstroke of "r"; closing point of "o"; relative position of the three strokes of "k"; overall design selection of "f", "t", "h", "n", and "b"; initial movement of "a"; final movement of "u"; rhythm depicted in word "instruction"; and the conformation of the lower half of "s".

In Figure 1 there are also illustrated the same six words extracted from the printing of Suspect "B" who was identified in this case and who executed a confession that he prepared the questioned cards and letters. "Suspect B" demonstrates a free, undisguised printing. It additionally demonstrates that Suspect "B" possesses printing ability precisely in agreement with that appearing in the questioned communications. Inviting attention to the fourteen points of difference in letter selection, ratios, and letter construction previously cited in respect to Suspect "A", it will be observed that these particulars fully agree as between groups "Questioned" and "B".

An initial per se estimation of every writing submitted for analysis is important. It is especially necessary and should be emphasized in the approach to printing

problems because such problems are in the minority in even the largest laboratories and, as stated previously, handprinting usually involves a more conscious process than does script. An examiner who is not on the solid ground of this essential initial step, may find himself adjudging general similarities in form to be individual printing habits and glossing over differences as disguise.

CASE 2

Several years ago another case was encountered which cogently illustrated the importance of an initial objective evaluation of questioned and known handprinting. This case presented, however, contrasting functional problems in printing evaluation. This matter had its inception with the mailing of a printed letter soliciting sales of narcotics. The author of this letter proposed to sell morphine through the United States Mails in violation of the Postal Laws, and he had concocted a rather unique method of "ordering" and "distribution". In his letters to the prospective buyer he directed that a coded message be placed in the personal column of a large metropolitan newspaper to indicate the desired quantity of morphine. After a narcotics mailing, he would direct payment in cash to be sent to a suburban post office box rented in a fictitious name.

Ultimately four letters and the printed wrapper from a narcotics shipment were submitted to our laboratory in San Francisco, together with printing standards from a practicing physician whom the inspector handling the field investigation believed was the narcotics supplier. The inspector said frankly he did not think from his lay examination of the printing that the doctor himself printed the letters and wrapper.

The questioned material was grotesque in form and contained numerous misspelled words and semi-literate sentence construction. A careful study of this printing revealed that the author had difficulty maintaining his camouflage, and he reverted intermittently to his normal printing. The printing of the letters and package clearly indicated that the author was an impatient sort, who possessed the cunning and manual ability to perfect a disguised printing. As is usually the case, however, he did not exercise the requisite mental patience and manual care in the execution of his planned disguise. For example, at one point the author executed 18 words in a distorted hand, then lapsed into a firm natural movement in writing the fraction " $\frac{1}{4}$ ". He thereafter produced about 25 additional distorted words, followed by a dozen or so words printed in a free, natural movement.

The standard printing of the suspect doctor produced by request revealed a confident, almost insulting attempt to obscure and distort his normal printing habits. However, the investigating inspector located a printing standard executed by the doctor in the regular course of business. The value of the latter class of standards can not be overemphasized in this type of case wherein an intelligent suspect studiously attempts to destroy the individuality in his standard printing. The value of request standards should not be lost sight of, however, as suspects frequently revert to distorted letter formations previously employed by them in questioned specimens.

Clearly, the examiner in this type of printing problem wherein distortion is evident, must catalogue firmly the printing habits which are normal, the rarities, the accidentals, and the general pattern and extent of distortion. For the examiner to plunge prematurely into comparisons of letter constructions without first satisfying himself

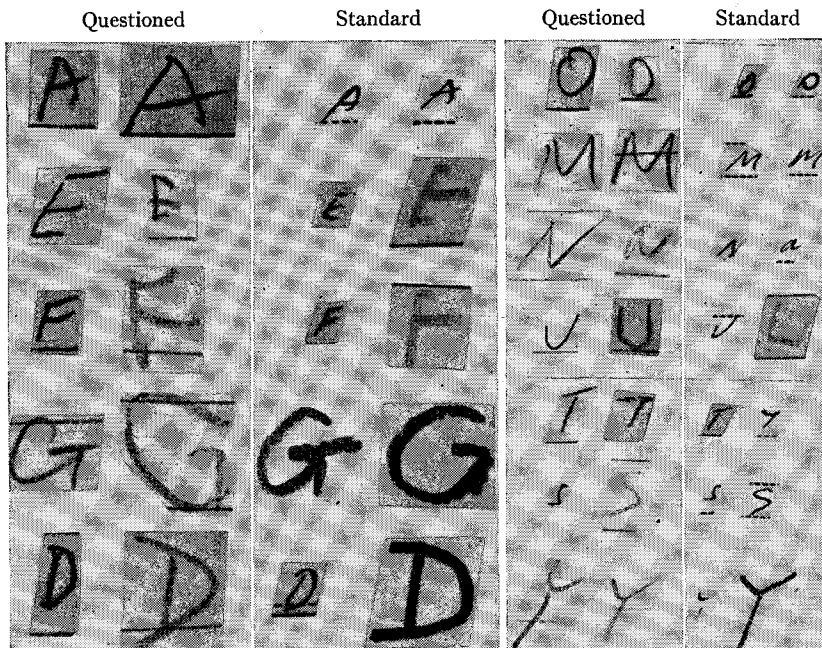


Figure 2

of the true significance of such letters is definitely faulty procedure which may lead to an indefinite or erroneous conclusion.

In these types of cases it may be necessary in differentiating the wheat from the chaff to prepare photographs and by cut-outs to physically separate the writer's normal printing habits and his various gradations of departure therefrom.

Figure 2 illustrates several of the agreements in habit developed between the questioned specimens and the standard printing of the suspect doctor, after these habits had been isolated by groups. Particular reference is made to the following points, progressively illustrated in Figure 2: Position of right side of "A", normal; curled terminus of "A", normal; upward inclination of center bar of "E" and "F" when normally executed; accentuation of center bar of "E" and "F" when distortion is injected; one-stroke execution of "G" when normally printed; awkward two-stroke execution of "G" when distortion was injected; narrow design of "D" when normally printed; broader design and elongated serifs of "D" when distortion was injected; curled intersection of beginning and ending stroke of "O" when normally printed; elongated terminal stroke of "O" when distortion was injected; two-stroke construction of normal "M"; retraced left side of occasional "M"; angle equalities of normal "N"; left loop of occasional "N"; lengthy terminus of normal "U"; hesitation in center of distorted "U"; upward crossing of normal "T"; corrupt design of occasional "T"; flat bottom of normal "S"; downward inclination of final movement of occasional "S"; tilted design of "Y" when rapidly printed; and symmetrical design of "Y" when printed at reduced speed.

Had not a systematic isolation been pursued of the normal habits and the variations in both the questioned and standard printings involved in this case, that definite

identification could not have been supported. The suspect ultimately confirmed our identification by a confession.

CASE 3

A further case, which is one of the most interesting this writer has investigated, is cited. It involved the mailing of numerous threatening and obscene letters in violation of the Postal Laws over a three or four year period. The printer in this case was a confirmed poison pen artist who virtually made a career out of disguising her script and handprinting. However, the volume of the illegal mailings in this case permitted a most comprehensive insight into the printing habits of this writer. Similarly we were fortunate to obtain a considerable volume of standard printing, likewise permitting a thorough recognition of the printing habits, the accidental traits, and the abnormal letter formations of the suspected writer.

Figure 3 illustrates a study of letters "a", in order, normal design, reduced speed abnormal design, and transitional design wherein the printer could not make up her mind; a study of letters "i", in order, normal with dot, normal without dot, and studiously disguised design; our analysis of letter "R", in order, normal three-stroke design, abnormal reduced speed design, and studiously disguised design; significant agreements in letter "y", in order, normal loop design, and reduced speed distorted designs.

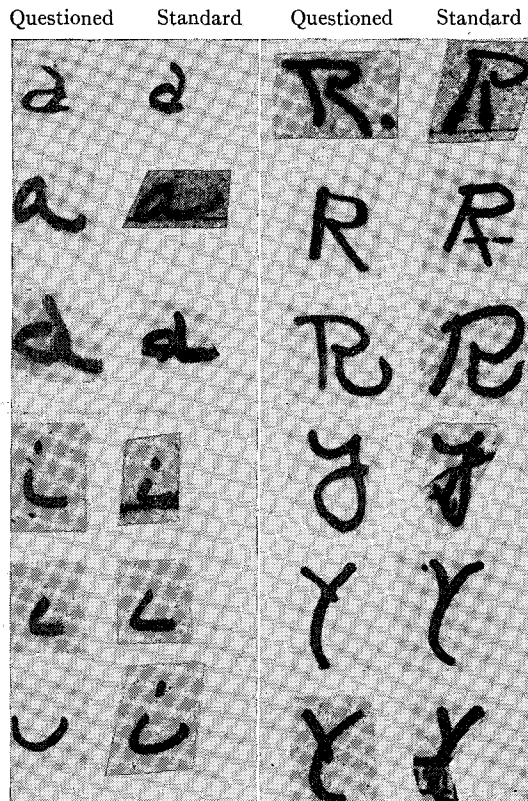


Figure 3

Figure 3 clearly reveals the erroneous inferences and conclusions which could be drawn from comparisons of normal letter construction with abnormal letter construction. The agreements illustrated in Figure 3 exemplify about 10% of the total significant agreements in habits developed in this particular case, from which a conviction resulted.

CONCLUSIONS

In summary, the following postulates are offered for your consideration:

a. Cases involving handprinting are not unusual today and should not be so approached.

b. Handprinting cases are, however, a minority laboratory problem, for which reason and as printing itself is less systematized than script, the inclination to attach unwarranted significance to pictorial similarities can be seductive; accordingly handprinting problems should not be left to the inexperienced but merit careful study by the experienced examiner.

c. As the act of handprinting and cases resulting therefrom are increasing materially, more research should be directed to handprinting as such. Factors of pertinence in this connection include (1) The influence of the trend to primary school instruction in manuscript writing followed about the beginning of the third grade level by an introduction to cursive script and (2) The influence of the trend to the principle that modern printing is more legible than modern cursive script, as evidenced by the many "Print—Do Not Write" documents in current circulation.

d. The initial step in a printing examination should be a study of the questioned printing itself and of the standard printing itself to establish independently its normalcy or otherwise, its exemplified skill, and its general reliability as a medium of identification. During this step, the principle should be evercompelling that not all printings, questioned and/or standard, will embody reliable bases for identification. The examiner who seeks to identify definitely every printing submitted to him, seeks to do that which cannot be done.

e. When the examiner has concluded that questioned and standard printings embody reliable bases for identification, in his comparative efforts he should catalogue meticulously by groups, the fixed habits, the occasional variations, the accidentals, the rarities, and the distorted and assumed features, if any, therein. Concurrently, the examiner should carefully weigh the intrinsic individuality of these characteristics in combination. "Similarities" do not justify identifications, unless they describe that combination of agreements in significant habit which isolates one, and only one, printing personality.

f. Examiners should impress upon field investigators and others submitting cases to them that regular-course-of-business standards and request standards complement each other and are equally necessary in complex printing cases; the former because therein the motive to disguise is absent, nervousness, self-consciousness, etc., are not induced; and the latter because they can be made to conform to the subject matter, writing media, arrangement, etc., of the questioned printing, and for the additional reason that many guilty suspects in disguising request printing, revert to the abnormal characteristics injected by them into questioned printing.