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Ordway Hilton

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THE COLLECTION OF WRITING STANDARDS IN CRIMINAL INVESTIGATION

Ordway Hilton[†]

In criminal investigations involving the question of authorship of hand-written or handprinted documents, it generally becomes the function of the police officers to collect for comparison purposes specimens of handwriting or handprinting—usually referred to as standards—from all persons under suspicion. The proper execution of this phase of the investigation is of utmost importance, for poor or inadequate standards may restrict the findings of the expert. As many investigators are unfamiliar with all the requirements for a complete and satisfactory set of standards, it is the purpose of this paper to call these requirements to their attention and to suggest procedures whereby the specimens so obtained will be of greatest utility in subsequent comparisons.

IDENTIFYING CHARACTERISTICS

Before proceeding with an analysis of these requirements some mention ought to be made of the various writing characteristics upon which the expert bases his opinion, in order that the reader who is unfamiliar with the identification of handwriting may have a better idea of the numerous factors which enter into such identifications.¹ With some knowledge of the complexity of the expert's examination he can then more thoroughly realize the need

for observing each of the following requirements for adequate standards.

The great majority of non-experts who attempt to make identifications of handwriting base their opinions for the most part upon letter formation, and especially upon those forms which differ most radically from their own writing. While the expert examiner considers the formation of letters, he bases his conclusions upon many other factors as well. From his examination of the questioned and standard writing he endeavors to determine the customary writing speed. Likewise, he considers the rhythm with which the writing is executed; its symmetry and smoothness or the lack of these characteristics; the occurrence of hesitations and pen lifts; the presence of tremor, due either to attempted simulation of someone else's writing or to feebleness; the pen pressure which the writer is accustomed to use; the position of the pen; and the shading or variation in pen pressure throughout the writing specimens. From his examination he will seek to determine the manner in which the writing was executed—that is, whether it was written entirely by motion of the fingers, of the wrist, or of the arm or by a combination of these various techniques.

In considering letter formation the expert determines the system of writ-

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¹ For a discussion of the writing characteristics which are of most importance in signature ex-

aminations, together with an illustrated analysis of specimen signatures, see Hilton, Ordway, "The Detection of Forgery," Jr. Crim. Law and Criminology (Police Science Section) 30 (4):568-599 (1939).

ing which the person employs, and notes the variation in letter forms from those typical of the particular writing system. For this phase of the examination he considers roundness of the writing, the manner of connecting the letters, the size and proportion of various individual letters as well as of the parts of compound letters—such as “d,” “k,” “b,” etc., and the slant and spacing of the writing.

With every writer there is some variation from specimen to specimen in his writing characteristics, the amount of such variation depending, of course, upon the individual. No two successive times does he write any word in identically the same manner, not even his signature or such common words as “and” and “the,” which are among the most frequently repeated combination of letters in everyone’s writing. The determination of the usual variation common to the writing specimens of an individual is an important identifying characteristic, as this single factor enables the expert to differentiate accurately between writings which are similar but not the same or between genuine and forged signatures.

In the case of pages of writing, letters, and even with checks, receipts, and other legal forms, characteristics such as the arrangement of the material on the paper, the spelling, punctuation, and the alignment of the writing relative to printed lines or margins may serve in effecting an identification. Likewise, the crowding or spreading of the material on the paper often represent individual habits of the writer.

These various writing characteristics are among the more common factors which the expert considers in the course of his examinations. If he is to successfully identify the writing of an individual, it is obvious that the same characteristics must be reproduced both in the questioned writing and in the standard specimens as well. With this fact in mind requirements for an adequate set of standards can be formulated, and the need for observing precautions when collecting such standards can be better appreciated.

CLASSES OF STANDARDS

A set of handwritten or handprinted standards—to be adequate for comparison purposes—must contain a sufficient quantity of properly prepared material so as to indicate not only the individual writing habits of the author but also the range of variation from specimen to specimen in these habits. These standards, of course, need not contain all the innumerable identifying characteristics of the person’s writing but only those which are associated with writing similar in type and context to the questioned. Two classes of specimens are available which fulfill these requirements. One consists of writing or printing executed from day to day in the course of business, social, or personal affairs. Such standards may be referred to as *collected standards*. The second class consists of specimens of the person’s writing or printing executed upon request of the investigating officers for the sole purpose of comparison with the questioned documents and are generally known as *request* or *dictated standards*. Since many of the problems encountered in

the preparation of collected standards are not common to the problems involved in preparing request standards, each type of specimens will be given separate consideration.

COLLECTED STANDARDS

The preparation of an adequate set of collected standards depends primarily upon the inclusion of a sufficient amount of material, but there are other factors which influence these standards to varying extents. The following outline includes the principal points which the investigator should consider when gathering such specimens:

1. The amount of standard writing available
2. The similarity of type of writing
3. The relative date of execution of disputed and standard writing
4. The conditions under which both questioned and known writing were executed
5. The type of writing instruments and paper employed.

Amount of Standard Writing

As has already been stated, the most important factor in preparing collected standards is to include an adequate amount of writing. It is rather commonly believed that the expert can make a positive identification of the author of any specimen of writing with only one or two signatures as standards. Unfortunately, this is far from the truth. As already pointed out, the variation common to all writing makes this impossible, for only by means of a number of writing specimens can the expert accurately determine all the writing characteristics of an individual, as well as the amount of variation

which can be expected to occur among these characteristics from specimen to specimen.

No definite rule can be formulated for determining the minimum number of standard signatures necessary for a particular examination, because the amount of variation from signature to signature differs with each individual. In the majority of investigations, however, between 15 and 20 specimen signatures should prove adequate, but because of the individual or the conditions under which the standards were prepared this may not be a sufficient amount. Likewise, the minimum amount of writing necessary to identify the writer of an anonymous letter or to establish the authorship of handwritten documents varies in each individual case. Usually 4 or 5 pages of connected, natural writing should be satisfactory. If the questioned documents are hand-printed, a minimum of 4 pages of undisguised handprinting should be submitted to the expert. In any case, however, investigators should always endeavor to obtain as large a quantity of handwriting or handprinting as possible and should not be satisfied merely to fulfill minimum requirements.

Similarity of Subject Matter

In addition to having a quantity of writing it is important that the standard and questioned writing be of a similar type. Thus, if a signature is questioned, standard signatures should be collected; if a check fraud is being investigated, genuine cancelled checks should be procured; if an account entry is challenged, other entries should be obtained as standards; or if the authorship of an anonymous letter is to be

established, letters or pages of writing should be gathered for purposes of comparison. The reasons for such choice will be considered briefly.

Both because of the frequent use of a person's signature and because of the nature of its use—to represent the

A further point of consideration in collecting standards is the use for which a signature is intended, as certain writers employ distinctly different signatures for different purposes (Fig. 1). An example of this is the person who uses one style signature for checks

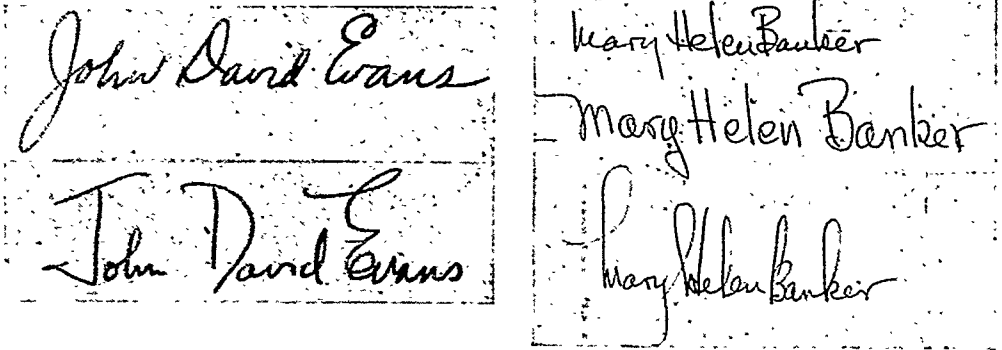


Figure 1

VARIATIONS IN SIGNATURE STYLES OF TWO WRITERS

The signatures here reproduced show different signature styles used by two writers. The differences between the Evans signatures are principally in the slant and the style of the capitals. The first two Banker signatures might be considered as variations of the same signature style when compared to the third, but, nevertheless, as used by the writer there are a number of consistent differences between these two specimens so that they can be considered as individual styles.

writer in business and personal affairs—it tends to become more individualistic than any other combination of letters which he is accustomed to execute. By way of illustration the reader undoubtedly recalls several unusual signature styles of acquaintances—signatures which differ radically from the remainder of the person's writing. Obviously, in such extreme instances only these genuine signatures would be useful in determining the authenticity of a questioned specimen, but even in cases in which signatures appear similar to the other writing executed by the person, the expert generally finds small details which are common only to the signature and which makes it desirable to have available standard signatures for comparison.

and legal documents and a second for correspondence. While some such writers are very consistent in their uses of each style of signature, others may from time to time vary the use of one particular style. Consequently, while investigators should always obtain a number of signatures which were employed for the same purpose as the one in question, they should include, whenever possible, some which appear on other types of documents so that the expert is able to determine whether the writer employs more than one style signature and, if so, whether the questioned specimen may be of a style not generally used for the particular purpose.

Principally because of the limited number of writing characteristics oc-

curing in signatures, but also because of differences in many instances between such specimens and the remainder of the person's writing, signatures alone will be of little assistance in determining the authorship of more extensive specimens of writing. In such cases standards consisting of letters, reports, and other written documents allow the expert to come to much more definite conclusions, and greater similarity of subject matter between standard and questioned specimens makes possible the determination of more points of identity.

The Relative Date of Execution

The relative date of execution of standard and questioned writings should always be considered, as a person's writing undergoes gradual changes just as does his appearance (Fig. 2). The rate of change or varia-

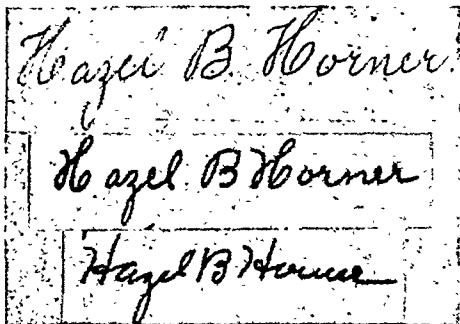


Figure 2

CHANGES IN HANDWRITING DURING LIFE

Signature A was executed about thirty years ago, B was executed by the same writer recently to demonstrate how she used to write, and C is her present style of writing. Note not only the differences between the "H's" of A and C but also in the forms of the "n" in the two signatures. B indicates the ability of some, but by no means all, writers to reproduce rather accurately signature styles previously used and suggests a possible disguise which might be employed in preparing request signatures.

tion differs with each individual and is dependent upon such circumstances as the amount of writing he executes, his age, and his mental and physical condition. Thus, with a middle aged person who is in good health there may be little apparent change in his writing from year to year, but during a severe illness specimens of this same person's writing may display marked differences (Fig. 3). However, since in the case of



Figure 3

EFFECTS OF ILLNESS ON SIGNATURES

The upper signature was executed during a severe illness, the lower four months later. Note in the first specimen the tremor and poorly formed letters—characteristics not found in the second specimen.

most adults writing changes occur gradually, material written two or three years before or after the disputed writing usually proves to be satisfactory standards; but as the lapse of years between the execution of the standard and questioned material becomes greater, there may be a tendency for the standards to be less satisfactory.

Conditions Under Which Writing was Executed

The conditions under which writing is executed may in some instances affect its value as comparison standards. Thus, haste, lack of care, or an unnatural writing position—such as resting the paper on the knee—introduces writing variations which may make the specimens entirely unsuited for comparison with more carefully written material. Other noticeable variations can be

caused by rough or irregular writing surfaces or by attempting to write while riding in a moving vehicle (Fig. 4). Illegible receipt signatures and hastily written notes are among the

its subsequent comparison with other specimens. Some identifying characteristics common to pen writing do not occur in pencil specimens of the same writer, while a change in style of pen—

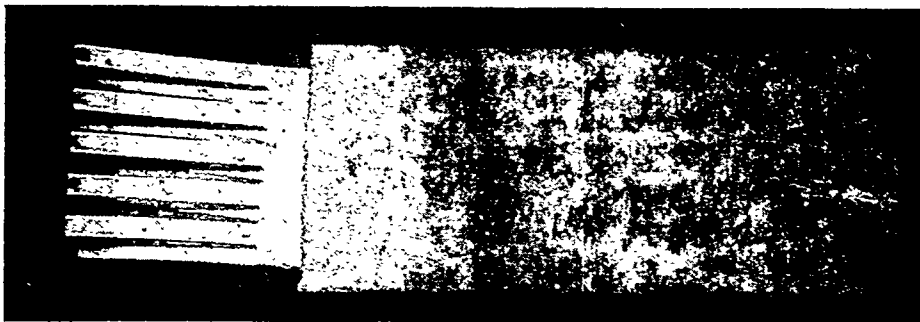
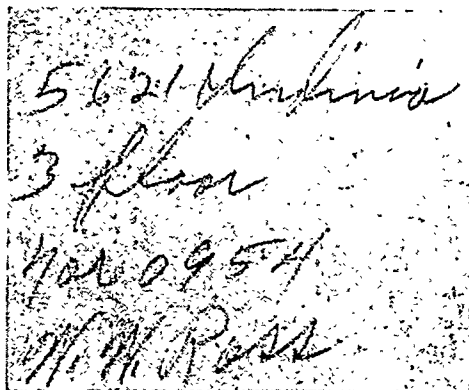


Figure 4

INFLUENCE OF WRITING POSITION

The writing in the match cover was executed while the writer was standing on a moving elevated car holding the cover in his hand. The other specimen was written by the same person seated at a table. The former shows the effects of the cramped writing position in that, for example, the upstrokes of the "I," "d," "f," and "T" are shorter, and the writing has poor alignment compared to the specimen written under more normal conditions.



most common classes of specimens which are affected by these unusual writing conditions, and such specimens should never be depended upon exclusively for comparison with writing executed under more normal conditions, although at times they form a valuable supplement to more carefully written standards.

Writing Instruments and Paper

Since the identification of handwriting is based upon many factors besides letter formation, the type of writing instrument used in executing a given specimen may have an influence upon

for example, from steel to fountain or fine to coarse—or in the grade of pencil—such as from hard to soft—may also introduce writing variations (Fig. 5).

The composition, size, shape, and ruling of paper may influence the writing specimens to some extent. If the reader has ever written with ink on a low grade, unsized "yellow" paper, he knows the difficulties which are encountered and the blurred specimens which so often are the results, and which do not occur when a high grade of bond paper is used (Fig. 6). Likewise, it can be demonstrated by experiments that the size of writing often

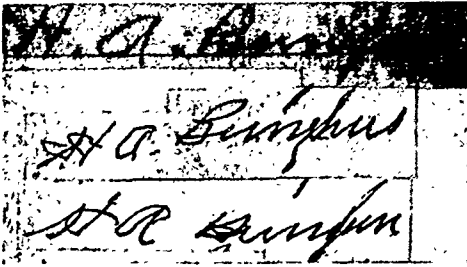


Figure 5

EFFECTS OF WRITING INSTRUMENT ON SIGNATURES

The above signatures were all executed by the same person; the upper one with pencil, the lower two with pen. All signatures were submitted as standards for comparison with a suspected pencil written signature. As can be readily seen, the defective pen signatures would be of little assistance in determining the genuineness or nongenuineness of pencil written signatures.

varies somewhat with a change in the size of paper, while variations in the width of the paper may cause crowding or spreading of words and letters. In many cases ruled paper improves writing alignment, while some individuals have the habit of writing above or below the ruled lines.

To counteract these effects, investigating officers should select pen or pencil standards, depending upon which instrument was used to execute the questioned specimens, and should endeavor to include some standards written on paper similar in composition, size, shape, and ruling to the questioned paper.

SOURCES OF STANDARDS

Since writing is a part of the daily life of almost everyone, the possible sources of writing standards are numerous, and officers who frequently investigate handwriting cases soon develop a rather comprehensive list of possible sources for standard specimens. Many investigators, however, who have had little or no experience

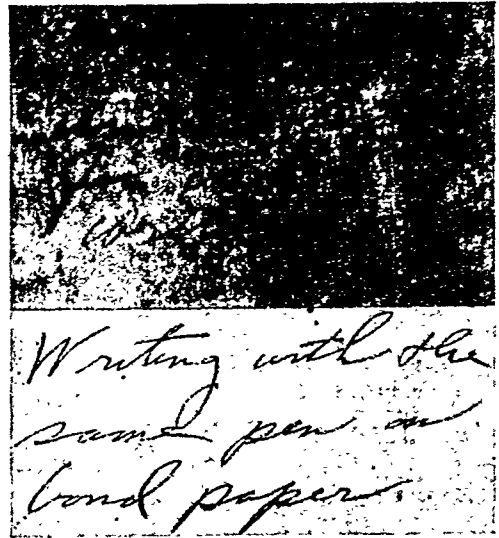


Figure 6

INK WRITING ON SIZED AND UNSIZED PAPER

The blurred strokes of the upper specimen (typical of ink writing on unsized paper) are caused by the pen picking up particles of paper and by the ink running into the paper fibers. On the other hand, with well sized paper, such as bond paper, the ink does not run or blur so easily.

with this type of investigation may find the following suggestions of some assistance.

Among the possible sources of signature standards are cancelled checks; signature cards for savings, checking, and charge accounts and safety deposit boxes; signed receipts for telegrams, special delivery or registered letters, packages, etc.; signatures on sales slips; leases, mortgages, bills of sale, contracts, deeds, and other legal documents; court records, such as naturalization papers, bankruptcy proceedings, divorce papers, probated wills, powers of attorney, etc.; driver, automobile, chauffeur, and other types of licenses and license applications; applications for gas, electricity, water, and telephone service; loan applications and receipts; tax returns or affidavits; insurance and em-

TABLE I
PROCEDURE FOR OBTAINING COLLECTED STANDARDS
Specimens Written in the Course of Daily Affairs

A. SIGNATURE INVESTIGATIONS

DO

1. Obtain at least 15 to 20 genuine signatures.
2. Procure ink signatures for comparison with questioned ink specimens; pencil standards for comparison with questioned pencil specimens.
3. Secure, when available, genuine signatures used for the same purpose as the questioned.
(i.e., if a check signature is questioned, best standards are genuine check signatures.)
4. Supplement standards with signatures used for different purposes.
(i.e., in check investigations supplement standard check signatures with signatures on correspondence, important legal documents, receipts, etc.)
5. Procure standard signatures of approximately the same date as the disputed (preferably within 5 years of the questioned).
6. If questioned signature was written under unusual conditions, attempt to obtain some specimens which were executed under similar conditions.
7. Secure, whenever possible, some signatures written on forms or paper of the same size as questioned document.

DO NOT

1. Do not rely on only one or two standard signatures.
2. Do not depend entirely upon other types of writing specimens.
3. Do not rely exclusively upon signatures used for very different purposes than the questioned.
(e.g., hastily written receipt signatures for comparison with questioned signatures on legal documents.)
4. Do not submit only pencil signatures for comparison with questioned ink writing or only ink signatures for comparison with questioned pencil specimens.
5. Do not use signatures written during extreme illness or intoxication, except for comparison with specimens executed under similar conditions.
6. Do not depend on recently written signatures for comparison with specimens written 20 or 30 years ago.
7. Do not collect only the recommended minimum number of signatures if more specimens are available.

B. INVESTIGATION OF OTHER SPECIMENS OF HANDWRITING AND
HANDPRINTING, E.G., ANONYMOUS LETTERS

DO

1. Procure at least 4 or 5 pages of handwriting or handprinting.
2. If questioned writing is in ink secure ink standards; if in pencil submit pencil standards.
3. Procure some specimens written prior to the date of the questioned writing, and all within a few years thereof.
4. Whenever possible, obtain specimens written on paper of similar size, shape, and ruling as that on which the questioned writing appears.
5. Conditions permitting, secure writing with phrasing, wording, subject matter, etc., similar to the questioned text.
6. When questioned writing has been executed under unusual writing conditions secure, if possible, some standard specimens which were executed under similar conditions.

DO NOT

1. Do not depend on but a few lines of writing.
2. Do not rely on only signature standards.
3. Do not submit only pencil standards for comparison with questioned ink writing or vice versa.
4. Do not depend entirely on writing which is known to have been executed under abnormal conditions for purposes of comparison with questioned writing executed under normal conditions.
(Consider, e.g., effects of illness, intoxication, haste, carelessness, etc.)
5. Do not use present day writing exclusively for comparison with questioned specimens written a number of years ago.
6. Do not submit only a minimum amount of writing if additional specimens are available.

ployment applications; currency exchange and pawn shop records; voter's registrations; time sheets, payrolls, and personnel forms; relief, unemployment, and old age compensation records; signatures for the purchase of certain drugs; and in the case of young persons, Board of Education or university class cards.

In investigations of handwriting other than signatures—for example, an anonymous letter—specimens of the suspect's writing very often can be obtained from acquaintances, business associates, or correspondents.² If the suspect is known to have filed a telegram recently, it may be possible to obtain photographic copies of the original form. Business reports, records, and letters furnish another excellent source of standards, as do personnel forms and applications for employment, club membership, etc.

The problem of locating specimens of handprinting may be more difficult, although many application forms request that the applicant print at least a portion of the information. On the other hand, some persons employ printing to a large extent even in a portion of their correspondence so that in such instances handprinted specimens may be readily available after a relatively short search.

REQUEST STANDARDS

Even with these numerous sources of standards officers may occasionally find it extremely difficult, or perhaps impossible, to obtain handwritten or

handprinted specimens which were executed by the suspect prior to his arrest. At other times conditions may arise in which it becomes necessary to obtain standards before a search for previously written material can be completed. In such cases *request* or *dictated standards* must be relied upon.

Because of the circumstances under which these standards are obtained, the following precautions must be observed in their preparation so that their comparison value will not be impaired.

1. The material must be dictated to the writer.
2. The dictated text must be carefully selected.
3. An adequate amount of material must be included.
4. Some portion of the dictation should be repeated at least three times.
5. Writing instruments and paper should be similar to those used in executing the questioned document.
6. Dictation should be interrupted at intervals.
7. Normal writing conditions should be arranged.

Dictation of Material

In order to obtain the most representative writing specimens possible, the text of the standards must be dictated to the writer without suggestions pertaining to the arrangement of material, spelling, punctuation, capitaliza-

² Correspondence carried on by Roland B. Molineux was used extensively by the state in the famous trial in 1899 of Molineux for the murder of Mrs. Katherine J. Adams. For a brief de-

scription of the trial and the handwriting evidence involved, see Ames, D. T., *Ames on Forgery* (1900) Chap. XVII, 216-236. A more detailed account of the case appeared in *The Molineux Case* Edited by Samuel Klaus (1929).

tion, or other points which might cause a writer to disguise or modify his natural writing habits. If the subject matter is continuous, as in the case of a letter, this dictation should be maintained so that the suspect writes continuously and not with frequent stops and starts.

With extended texts the initial speed of dictation should be at a rate which the writer can easily maintain, but subsequent specimens should be taken at several different speeds in order to ascertain the amount of variation which might be expected to occur with such changes. Furthermore, faster dictation may prevent a suspect from furnishing only his best or neatest writing, which often is as undesirable as obtaining only poorly written specimens since the questioned writing seldom represents either extreme. If the writer is attempting to modify or disguise his writing specimens, this increase in the speed of dictation lessens his chance of success. At this point, however, it is well to recall that many near illiterate individuals can only write very slowly paying a great deal of attention to the formation of each letter, while a person who attempts disguise may write in much the same manner. Thus, the natural manner of writing of the near illiterate may suggest disguise, but if all the precautions outlined above are observed, the resulting request standards will be consistent in their characteristics, unlike the usual dictated standards which contain disguise.

Request standards obtained by some other means than dictation—such as having the suspect copy typewritten, handwritten, or printed subject matter—do not give as satisfactory results.

By allowing the writer to use a prepared copy, a manner of arrangement, as well as the correct spelling and punctuation, is indicated to him with the result that these individual characteristics, which might otherwise be helpful for identification purposes, do not appear in the standards. Furthermore, a person who is copying alternately reads and writes, thus producing discontinuous writing which contains numerous stops and starts. As is readily seen a carefully conducted dictation eliminates all these objections.

Selection of Text

The texts for request standards may consist of three types of subject matter: (1) the contents of the questioned document; (2) some similar material which contains many of the same words, phrases, and letter combinations; or (3) dictation of a set or standardized form which includes all the letters of the alphabet and a number of the more commonly used words.

Since in many police investigations the person under suspicion is already in custody and may have at least partial knowledge of the contents of the questioned document, there is no serious objection to dictating these contents as standards. In fact, there are advantages to such a procedure which make it superior to the other techniques. With these specimens the investigator is relieved of any need to prepare special material for dictation, while the expert is able to examine the same combinations of words and letters in both the standard and questioned writing.

Occasionally, however, it may be desirable not to disclose the contents of

the questioned writing to the person who is furnishing the comparison specimens.³ Experience has shown that in such instances the preferable procedure is to dictate material which is comparable to the questioned writing—such as a connected text for comparison with anonymous letters, or specially prepared checks and receipts as standards for determining the genuineness or nongenuineness of questioned checks. In selecting this material investigators should include as many words and letter combinations from the questioned writing as possible, making sure that any misspelled words or any unusual uses of capitals or punctuation found in the questioned specimen are included in the dictated material.

Probably the least successful of all material for request specimens is the standardized or form dictation, such as "The quick brown fox jumps over the lazy dog." More elaborate texts which include all upper and lower case letters of necessity contain unusual combinations of unfamiliar words and names. Consequently, even though the dictation is repeated several times, the resulting specimens tend to lack the freedom of the person's usual writing. There are times, however, when form dictations, such as those developed by Osborn,⁴ prove valuable, and it is suggested that officers who are frequently

called upon to investigate handwriting problems become familiar with one or two of these forms.

The reader should not infer from this discussion that he must limit himself to one type of dictation per subject. On the contrary, a more representative set of standards can often be prepared by combining two or even all three types of texts. Such combinations can be employed to best advantage when the questioned writing is brief and sufficient dictation of its contents for an adequate set of standards would require a great deal of repetition. Still this technique may be equally advantageous when the questioned writing is more extensive, for a change of subject matter—such as from the questioned text to some unrelated material—may help to introduce normal writing variations into the standards.

An additional technique for obtaining standards, but not involving dictation, can occasionally be employed. The most favorable conditions for its use are after a suspect has been apprehended while committing an act that would connect him to an offense involving specimens of questioned writing. In such a case, if he offers an explanation for his actions, investigators should ask him to write this out and then submit this written statement together with the questioned writing to the expert. Because the writer generally concen-

³ There are some differences of opinion among experts as to the material which should be dictated. Quirke, in a discussion of the preparation of standards, suggests that this second type of request standard, a specially prepared dictation, be used in all cases. He further advises that these dictations be prepared as follows: the first part, consisting of short and elementary words, should be read to the suspect prior to the actual dictation; the second portion, containing words and phrases from the anonymous letter but not the actual letter, should be dic-

tated without prior reading; and the final portion should consist of common words of some length. He further suggests careful observation of the suspect during the entire dictation in an effort to discover any indications of guilt. For a more detailed discussion of his proposed techniques see: Quirke, A. J., *Forged, Anonymous and Suspected Documents* (1930) 233-235.

⁴ Osborn, A. S., *Questioned Documents* (2nd Edition) (1929), 34; *Problem of Proof* (2nd Edition) (1926) 346, 347.

trates his efforts upon the problem of furnishing a logical excuse for his suspicious actions and consequently gives little thought to the execution of the writing, these statements may well represent his normal writing and have upon occasion proved to be excellent standards.

Amount of Material

As was pointed out in the discussion of collected standards the natural variation in handwriting requires that these specimens contain a large quantity of writing. In the case of request standards two additional factors, nervousness and deliberate disguise, make necessary even more extensive specimens. Frequently, the initial portion of request writing furnished by an innocent person reflects nervousness instilled in part at least by being suspected by the police, but when the dictation is continued at length, subsequent writing tends to assume a more natural character. On the other hand, many guilty individuals deliberately attempt to disguise their standards in order to avoid detection. Fortunately, however, only the exceptional writer can continue an unpracticed disguise throughout several pages of writing. Thus, to assure that the specimens are free from the effects of nervousness or deliberate disguise, as well as indicative of the natural writing variations, suspects should be required to furnish at least 5 or 6 pages of handwriting or hand-printing, or in the case of signatures 20 to 25 specimens.

Repetition of Text

Regardless of the type of dictation employed, some repetition should be

included in the preparation of request standards. In questions involving the authorship of pages of writing this can be accomplished by repeating at least one page of material, preferably from the questioned text, three or four times at intervals throughout the entire dictation, thus forming a portion of the minimum requirements for adequate standards. Such procedure allows the writer to become familiar with the subject matter with the result that frequently more natural writing is produced. Furthermore, this is at times effective in discouraging disguise, for the writer, realizing that he cannot consistently reproduce the modifications of his first specimens, abandons the attempt altogether; while if he continues his efforts to disguise, marked variations generally appear between the various specimens. When such conditions are present, the suspect must be required to furnish several more pages of writing, some of which consist of further repetition of previous material. By this means it may be possible to obtain some specimens which are free from the effects of disguise.

Writing Instruments and Paper

The effects upon handwriting resulting from changes in the writing instruments and paper can readily be eliminated from request standards. In order to accomplish this, it is only necessary to furnish the writer with a pen or pencil similar to the one used in the questioned document, and at the same time to select paper of similar composition and ruling to the questioned, trimming it, if necessary, to the same size and shape. By so doing certain individual characteristics — such as

writing above a ruled base line, or the manner of crowding writing on a narrow sheet of paper—are often reproduced in the request standards.

Interruption of Dictation

The procedure of dividing the dictation of request standards into two or three units by means of rest periods is of value both in eliminating writing fatigue which may be occasioned by the preparation of extensive specimens and as an aid in preventing continued disguise. If all completed specimens are removed from the suspect's view during these pauses, the problem of maintaining disguise is made more difficult, as he does not have an opportunity to refresh his memory on the changes which were made in these specimens and as a result his disguise generally becomes inconsistent. At times the suspect realizes his inability to maintain writing disguise under these conditions and may as a result abandon any further efforts toward this end.

Writing Position

From previous discussion the reader will recall that writing position is a factor which often introduces variations into standards. Since a large percentage of daily writing is executed while the author is seated at a desk or table, in order not to introduce unnecessary variations in the request standards a suspect should be asked to write under similar conditions. In some exceptional cases, however, when the questioned writing is known to have been executed under unusual writing conditions, the writer may be asked to execute a portion of his specimens in a similar writing position, but these should be considered only as supplementary to, and not as a substitute for,

standards written under more normal circumstances.

SPECIAL CONSIDERATIONS FOR REQUEST SIGNATURE STANDARDS

By far the most troublesome problem in collecting request specimens is to obtain a satisfactory set of signature standards. Since the amount of writing involved even in preparing a large number of signatures is relatively small, the effects of nervousness or deliberate disguise may not be entirely eliminated. On the other hand, request signatures may at times be inadequate because of the tendency for greater uniformity than is characteristic of signatures written from day to day. In most instances it may be possible to correct these faults to some extent at least by the following techniques.

Increasing the amount of writing and at the same time introducing some variation in the subject matter tends to improve the standards. In the case of signatures this can be best accomplished by interspersing other writing among these specimens. One of the most simple procedures is to have the writer prepare twenty to thirty specimen checks or receipts, each of which contain his signature as either the maker or the endorser, instead of preparing an equal number of signatures alone.

Another scheme—most effective when the person is suspected of writing a fictitious name in his natural handwriting, as in the case of spurious checks—is to include among the standards a number of similar names together with the fictitious one. Following such a technique, if the fictitious name were "Joseph Martin," several variations, such as "Joseph Harts,"

TABLE II
PROCEDURE FOR OBTAINING REQUEST STANDARDS

Specimens Written for Comparison Purposes at the Request of the Investigating Officer

A. SIGNATURE INVESTIGATIONS

DO

1. Obtain at least 25 to 30 specimen signatures.
2. Have writer make out specimen checks or receipts in preference to furnishing signatures alone.
3. If questioned signatures are in ink, have suspect write with pen; if in pencil, with pencil.
4. Require suspect to write each signature on separate sheet of paper or form.
5. Provide paper or forms of the same size, shape, composition, and ruling as the questioned document.
6. Whenever possible, take a portion of the standards on different days; always interrupt preparation of standards once or twice for rest periods.
7. a. Provide normal writing conditions. (i.e., writer seated at desk or table.)
b. If questioned writing is known to have been executed under unusual conditions obtain some standards under similar conditions.
(e.g., writing produced while standing with paper resting in the palm of the hand.)

DO NOT

1. Do not depend on only one or two request signatures.
2. Do not ask suspect to furnish only pencil standards for comparison with ink signatures or vice versa.
3. Do not have writer execute all signatures on the same sheet of paper.
4. Do not leave completed specimens in suspect's view.
5. Do not show questioned writing to suspect.
6. Do not ask writer to furnish hurried specimens under poor writing conditions, unless questioned was so executed.
7. Do not furnish unsized paper for ink writing unless the same type was used for questioned document.
(“Yellow” paper is a common type of unsized paper which is undesirable for ink writing.)

B. INVESTIGATION OF OTHER SPECIMENS OF HANDWRITING AND
HANDPRINTING, E.G., ANONYMOUS LETTERS

DO

1. Dictate at least 5 or 6 pages of material including approximately one page which is repeated three times.
2. Dictate either the text of the questioned writing or some similar text.
(e.g., either the anonymous letter or a specially composed letter with similar wording.)
3. Furnish writer with pen if questioned document is in ink; pencil, if in pencil.
4. Provide paper of similar size, shape, composition, and ruling to that used for the questioned document.
5. Interrupt dictation at intervals, and vary speed of dictation from time to time.
6. Provide normal writing conditions; if questioned writing is known to have been written under unusual conditions have suspect write some specimens under similar conditions.

DO NOT

1. Do not limit standards to a few lines of material or to writing the alphabet.
2. Do not take only pencil standards for comparison with questioned ink writing or vice versa.
3. Do not have suspect copy from prepared text or questioned document.
4. Do not offer suggestions as to arrangement of material, spelling, etc.
5. Do not leave completed specimen in view of suspect.
6. Do not ask writer to execute specimens under adverse writing conditions unless questioned was written under such conditions.
7. Do not furnish only unsized paper for ink standards unless such was used for questioned writing. Then it is best to take only a portion of the specimens on it.
8. If specimens appear to contain disguise do not stop with minimum amount of material. Continue until disguise is eliminated.

"Rudolph Martin," "Stephen Marvin," etc., could be obtained.

When circumstances permit, an excellent procedure to follow in obtaining request signatures is to have the suspect prepare portions of the standards on different days. Such a technique generally results in variations in the request signatures which are more typical of those found in signatures written from day to day (Fig. 7). This

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Figure 7

REQUEST STANDARDS PREPARED AT DIFFERENT TIMES

The above signatures represent request standards prepared on two separate occasions, the first four signatures being written at the same time and the last two signatures being executed together at a later date. As can be seen, there is more uniformity in the signatures which were written at the same time than in the signatures written on different occasions. Most prominent among these variations is the larger writing of the second set of specimens and the break between the "F" and "B" in these specimens. Variations more typical of writing executed from day to day are frequently introduced in request signatures by obtaining standards on several different occasions.

same procedure, likewise, aids in making request specimens consisting of extended texts more representative and should be employed whenever possible.

In all cases each signature should be written on a separate sheet of paper or on a form similar to the questioned document so as to introduce as much natural variation as possible. With each change of paper the writer tends to alter his position somewhat as he is accustomed to do in the course of daily writing. The natural shift of writing position so produced is not encountered to such a marked degree if a series of signatures are executed on a single sheet of paper, and, consequently, a series of specimens each written on individual forms generally are more representative of the genuine signatures of the writer.

Occasionally, a change of writing instrument may make the standards more representative. For example, should the writer be employing a pen, the substitution of a pencil for several specimens, followed by a return to the use of a pen in subsequent standards, may introduce some of the desired natural writing variations.

COMBINATION OF REQUEST AND COLLECTED STANDARDS

In addition to signatures, other types of request writing occasionally may be inadequate, primarily because of in-

fluence of deliberate disguise.⁵ Therefore, if representative request standards cannot be procured through procedures already discussed, this type of specimen must be supplemented by collected standards. Such procedure is advisable in other instances as well, for collected standards are often superior to request specimens both in their freedom from disguise and their better representation of the natural range of writing.

Occasionally, when investigators can obtain only a limited amount of daily writing, they may be compelled to complete the standards with request material. To assure that these additional specimens are representative, the collected standards should be considered as supplementary, and enough material must be dictated to form a set of request standards which in itself fulfills at least the minimum requirements for adequacy.

CONCLUSIONS

As the reader undoubtedly realizes, the problem of collecting an adequate set of standards requires perseverance and the utmost care. Preparation of

request standards is a far more involved procedure than merely furnishing a suspect with a piece of paper and a pen and asking him to write a few lines, while to gather sufficient collected standards involves more than obtaining one or two cancelled checks which were written by the suspect. On the contrary, to properly prepare collected standards an investigator may need to make exhaustive searches, checking all possible sources of writing before obtaining a satisfactory set of specimens; and for request standards he must carefully select the material which is to be dictated, and while dictating watch the suspect as he writes, always endeavoring to minimize the chances of disguise. In many instances, however, the effort expended in this phase of the investigation is well repaid, since the results of the expert's examination based upon adequate standards may supply the necessary evidence to complete the investigation, while, on the other hand, no expert can formulate an accurate opinion based upon inadequate standards.

⁵ An unusual type of deliberate disguise in request signature specimens might be accomplished by the writer whose signature differed greatly from the remainder of his writing in the following manner. When asked to prepare a series of signature standards he might choose to "write his name," as he would in preparing a list of club members or employees in which

his name appeared, instead of executing it in its usual distinctive style as he would on a check or legal document. Such a disguise can be overcome most effectively by obtaining a few signatures written in the course of daily affairs. Confronted with these genuine signatures the suspect can hardly refuse to prepare a number of similar specimens.