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A FURTHER LOOK AT WRITING STANDARDS

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The accuracy of handwriting opinions depends upon the accuracy of the known writing. Writing standards may be defined as specimens which tell how a person writes. To obtain such writing sounds like a simple operation, but actually, it may be one of the most complex and difficult parts of the whole writing investigation.

Standards must reveal how a person writes. The problem is complicated, however, by the requirement that they must show how he writes at the time at which the questioned material was, or was supposed, to have been executed. In a certain percentage of writing investigations, a person would not write in his usual way at this particular moment.

How a person writes suggests to many laymen a rather static situation. A person has certain fixed habits which identify his writing. It is a common concept that this fact tells the whole story of writing identification, and with this idea in mind, investigators seeking handwriting samples generally feel that one, two, or three pieces of writing certainly show how the person writes. Unfortunately, writing is not static. Personal variation encountered under normal writing conditions is also a highly important element of identification.

The qualities of personal variation include both its nature and its extent. Writing standards must accurately define both aspects. This requires writing in quantity. If the quantity of standards is somewhat limited, experienced examiners learn to evaluate slight divergencies from the known specimens in terms of whether they can be attributed to normal or expected variation. Here is a judgment factor imposed by restricted standards which in the hands of different examiners can lead to some divergency of conclusions. Here is a judgment factor which if applied too liberally or too restrictively can lead to serious error.

We must also recognize that there is the occasional writer whose writing presents abnormal aspects of variation. Furthermore, writing under conditions of extreme haste and lack of care may display variables which are "abnormal" for the writer under consideration. Thus, good writing standards should be sufficient to define accurately both the identifying habits and qualities as well as the kind and extent of variation typical of the writer's handwriting under any specific writing conditions.

Factors which cause deviation from normal writing are well known. There is deliberate disguise, but this paper is concerned with temporary and more permanent physical conditions which cause changes from normal writing. Factors which can cause a particular signature to appear abnormal include writing under adverse writing conditions, such as in bed or on a pad held in the hand; illness of a serious but short duration which produces a weakness in the writing; physical exhaustion, intoxication, and other physical conditions which affect some writers' handwriting. More continued or lasting deterioration may come with old age, terminal illnesses; diseases of the nervous system, i.e., Parkinson disease, strokes, arthritis of the hand, and the like. If a questioned signature may have been influenced by any of these conditions, it is necessary to look for known writing prepared under comparable circumstances.

In examining handwriting and signatures we are many times accustomed to work with limited known specimens. Even 15 or 20 signatures is a small sample of all of the signatures executed by the average writer within a few years of his life. We are here dealing with a problem that has become somewhat common in other fields of endeavor, the problem of sampling. Statisticians maintain that a carefully selected small sample can

more accurately describe a universe, that is the whole, than a very large, unselected sample. The catch in this is that there must be careful selection, and even then the sample must not be too small. Statisticians might shudder at the restricted sample size, 6 to 12 signatures, which we sometimes use. In document work because of the small sample, selection must be very carefully controlled if the standards are to describe accurately and completely how a person writes.

The selected writing standards need not fully describe how a person writes throughout a major portion of his life. We are concerned only with a specific time, a particular day, week, or month. The period in question may not be too accurately defined by the circumstances of the case, but even if not, the questioned writing was most likely prepared within a very short interval in a person's life. The known writing certainly must be selected, however, so that it will describe this person's writing in the interval in question.

We have now created a criteria for accurate standards which in certain cases at least involves real problems—problems which sometimes can only be solved in part. The examiner and the investigator must both recognize these problems and strive to solve them completely. If they cannot, then it must be recognized that the accuracy of findings are subject to greater probable error.

Let us get down to practical questions, and particularly those which bother us most in handwriting studies. If the writing in question was prepared under normal writing conditions, both in respect to the physical surroundings and the writer's health, by an individual of average or better writing ability, the selection of writing standards does not present a particularly difficult problem. Cases of this nature are routine although they may have some small challenging quirk, but otherwise can be solved on the basis of 10 or 20 contemporary signatures written under comparable physical conditions, or a few pages of general writing if this is the particular problem. But all problems are not of this nature.

It is the special cases which give trouble. They may involve the physically able person of certain writing groups and under certain circumstances; they may involve the physically handicapped writer. The individual cases which are to be considered are not exhaustive but are typical. Since signature problems are both more common and more difficult, signature standards are our present

concern. With the physically able writer some representative "headaches" include:

1. Signatures of the careless or highly erratic writer
2. Receipt signatures
3. Signatures of the near-illiterate writer.

Among special problems encountered in handwriting by persons suffering from some physical disability we find problems such as:

4. Signatures while intoxicated
5. Signatures of the aged and on the death bed
6. Signatures during severe illness.

These problems are particularly perplexing when there is only a single questioned signature and the obvious alternative to genuineness is that some person who might benefit from the document forged it or caused it to be forged.

Technically these problems are among the more difficult which confront the document examiner, but they are usually made more troublesome by the lack of appropriate standards.

Signatures represent a limited amount of writing, but a form of writing which is generally the most individual of any a person executes. Nevertheless, because of the small quantity of writing, any abnormal variation or any deterioration due to physical causes complicates the identification problem. Unfortunately, the document examiner is not asked whether the questioned and known signatures are sufficiently alike to be the work of one writer, but rather, he is asked the more difficult question did the person who wrote the known specimens write the questioned signature. Under some conditions we are considering, the known specimens may fail to show adequately how the person wrote at this period of time. Possibly, better specimens can be procured if both the examiner and the investigator recognize and face up to the problem.

UNUSUAL SIGNATURES OF THE PHYSICALLY ABLE WRITER

The Erratic Writer. There is a certain group of writers who dash off signatures with virtually no consistency. Often the signature has little distinctive form. Half a dozen specimens selected at random may cause one to wonder whether they were actually done by the same person. These are cases in which the number of known specimens must be great. With 75 or 100 known signatures, the examiner may still be struggling to account for some rare peculiarity which occurs in the questioned signature.

FIGURE 1

Eight signatures prepared within a period of five weeks showing variables in letter design and other identifying elements. In all between 70 and 80 signatures were necessary to account for the various details in a denied signature. Wide variation, rapid writing, and an apparent lack of attention to details was characteristic of all signatures of the writer.

With a writer of this type, even a series of signatures written within a week or so of the questioned signature may show great variation (figure 1). In fact, the truly erratic writer almost creates one questioned signature after another. About all he actually has to do is to scribble another signature on a new document and subsequently deny or dispute its authenticity. Gradually, however, with the accumulation of more and more standards, the various unusual qualities of a questioned signature, especially a denied one, are accounted for. One need

not think, however, that these are going to be accounted for in a precise manner. Instead, it is necessary to set up rather wide limits within which the signatures vary, and then to evaluate the questioned signature to determine whether it falls within or outside of these limits. Judging by large sets of standards, a signature may be genuine and still have one or two elements varying beyond the usual limits. Attorneys and investigators handling problems of this nature may become weary of the constant cry for more standards, but if the matter has to be presented to a jury, it is highly desirable to continue the search until virtually every eccentricity is explained. This continued search should go on even though the examiner believes the questioned signature is authentic despite some still unexplained divergencies.

Variation in signatures of this nature are most usually found in form elements. However, the speed with which the writing is produced and its general quality of execution may also vary to some extent. From time to time a signature is found in which special care has been given to its form by subduing the usual impulse of haste and abandon.

Adequate standards must be numerous. Signatures in these cases must be made up primarily of collected specimens for such a writer can completely confuse the examiner with request specimens in which he writes his best or takes the pains to put all of the letters in his signature. With his day to day signatures, it is not unusual to find some in which several letters have been completely ignored.

The intended purpose of the questioned signature should of course be considered, but it is generally found that check signatures and signatures to correspondence or to formal documents have comparable variable qualities. In the end, any available authentic signature assists in the solution of the problem. The major task is to establish accurately a full picture of how the writer signs his name.

The Receipt Signature. The carelessly written receipt signature really represents a special class of erratic signatures. It has the same lack of consistency but only when the writer is signing for a delivery, for example, of a letter or a telegram. With this writer under other conditions his signature is reasonably uniform and superior in form and execution.

With a questioned receipt signature, one is never quite sure of the conditions under which it was prepared. It is often true of the standards as well.

FIGURE 2

Two receipt signatures are shown below a formal signature of Thomas Regan. Note the lack of detail in the receipt signatures and the different capital letter forms. While this writer's receipt signatures were somewhat uniform, they differ sharply from his formal signature.

They could have been signed against a rough plaster wall reflecting both the irregularities of the writing surface and the poor writing position. They could have been signed with the paper attached to a clip board while held in the hand. They could have been signed with the paper resting on the knee or in the other hand and with no support for the writing hand. To complicate the problem further, the writer may have been annoyed at having to sign at all. With the scrawled receipt signature, it is obvious that he has taken very little pains. When these receipt signatures are compared with formal signatures, the divergencies are shocking (figure 2). The scrawled, almost illegible receipt signature may bear little relationship to signatures on checks, letters, or legal documents. If denied, the layman is sure at a glance that it must be a forgery.

With problems of this nature, the only signatures of real value are other receipt signatures. In most cases, 15 or 20 formally written signatures add almost nothing to the picture. Request signatures may be of little value since they are usually written with care. It is very likely to be the case if the receipt signature is denied. The search for additional signatures of comparable nature may be long and difficult since this class of signature is not generally preserved for long periods of time. They are, however, essential if an accurate conclusion is to be reached. Certainly if trial demonstration becomes necessary, adequate, comparable receipt signatures are almost mandatory.

The Near-Illiterate Writer. With a person whose total writing ability can be summed up as being able to "sign his name," production of a signature

is apt to be a slow, laborious task. His signature probably never has developed beyond the stage of creating it letter by letter. His writing is a deliberate act rather than semi-automatic. The signature is nearly drawn, plodding, and its design is primitive. This kind of writer only signs his name when he has no other alternative so he has created few examples. Problems involving these signatures tend to be troublesome.

First we are faced with the difficulty of locating a sufficient quantity of genuine signatures. A few of these writers produce fairly uniform signatures, but with many it is extremely difficult for them to repeat forms with the consistent pattern found in more developed writing. The genuine signatures are filled with strokes which are slow and drawn, with forms which are crude and may have been put together stroke by stroke. Many signatures standing alone suggest forgery. The amount of variation from one to the next may be excessive. So the difficulty in finding an adequate quantity of signatures is frequently complicated by the serious need for more than the usual number of standards. Fortunately, collected standards can be supplemented by request specimens if the writer is living. While the search for an adequate number of standards may be long and arduous, when they are assembled the identification can be very accurate and convincing.

SIGNATURES OF PHYSICALLY IMPAIRED WRITERS

The Intoxicated Signature. Excessive consumption of alcohol produces different effects with different writers. Some individuals have far greater tolerances than others and can consume large

FIGURE 3

A formal signature of Dickinson together with four signatures signed on a single night for drinks at a club bar. Note the progressive lack of detail that is encountered in each signature compared to the earlier ones. Not only is there the element of the influence of alcohol in these signatures; but judging by the first signature, a further element of lack of care in signing such an informal signature.

quantities of alcohol before their signature is influenced. In general excessive consumption of alcohol introduces some deterioration in writing, a lack of accurate coordination which leads to inferior signature design. The overall writing skill declines, although writers with developed, connected writing still strive to write this way. In more extreme instances, while the signature assumes "a drunken stagger," some parts are formed with an "I don't care" abandon. Successive signatures wander away from the normal design and also the design of the immediately preceding signature in somewhat unpredictable ways—in other words variations become great. Successive specimens written during the same night of drinking—i.e., signing club chits for successive rounds of drinks—vary greatly in many identifying elements (figure 3). What we are concerned with in this discussion is not the extent that alcohol affects writing but how to obtain comparable specimens which can be used effectively in accurately identifying a signature which clearly reflects the influence of excess alcohol.

When confronted with a signature which reflects a degree of intoxication, the problem of obtaining known specimens may be less difficult than with

other classes of abnormal signatures. A writer who may have signed a questioned document under the influence of alcohol probably has signed others on other occasions. In most cases involving heavy drinkers, proper investigation uncovers a number of signatures showing various evidences of intoxication. Again, wider range of variation requires more authentic specimens, and these specimens should be "intoxicated" rather than "sober" signatures, sometimes a substantial obstacle.

Standards for these problems consist almost exclusively of material collected from various sources. Request specimens or any specimens for that matter which are written when the writer is not drinking have only limited supplementary value. Of course if the writer is apprehended in a criminal investigation while intoxicated and can be persuaded to write a number of specimens, signatures so prepared may be of value. The normal investigation of a signature in either a civil or criminal action involving a questioned signature written while intoxicated does not lend itself to obtaining request specimens from a suspect under the influence of alcohol. No cases have been reported in which a suspect was permitted to drink during the preparation of standards until he became suffi-

FIGURE 4

The top signature of William Boyne was written ten years before the five lower signatures. For several years prior to death, Boyne's signature had seriously deteriorated, and these check signatures were typical of his signatures during the last years of his life. It was reported that Boyne was active and was not confined to his home during much of this time, but yet his signature had lost much of its coordination and skill.

ciently drunk to prepare appropriate specimens of writing.

In passing, it should be observed that the use of drugs, and once in a while physical disability from other causes, produces physical symptoms suggesting intoxication. If the reaction is carried over into the writing, comparable observations on these standard requirements can be made.

Old Age Deterioration. Very difficult problems may be encountered with signatures which have seriously deteriorated due to the writer's age or to terminal illness. Of these, the death bed signature is particularly perplexing since the deterioration may have been rapid with little or no forewarning in earlier signatures. With decrepit signatures of an aged writer, the decline normally occurs gradually over a period of months or years. More known specimens revealing writing weaknesses are therefore available than with death bed signatures.

Writing of this nature is characterized by a lack of fluency in execution and inaccuracy and inconsistency in details of form. It is not as good writing as earlier signatures by the same person (figure 4). Study of a series of signatures by an infirm writer reveals much greater variation from signature to signature than was typical of vigorous signatures

of earlier years. The inconsistency of these signatures, which in some cases is very prominent, complicates the problem. In order to reach the most accurate conclusions, two or three times the normal number of signatures may be needed, and they must be closer in date to the signature in question than in the usual case. Although a sufficient number of signatures may have been executed, it is often hard to locate them.

We are confronted with the same identification problem with the death bed signature. But a dying person is not signing his name frequently. In fact, he signs his name only for the most urgent reasons. With many, this is only once or twice. Oftentimes, available genuine signatures are almost as suspect as the death bed signature, since circumstances surrounding their preparation are so like the questioned signature (figure 5). (E.g., at the time all specimens were written, the writer was being cared for by the one member of the family who is strongly favored by a disputed will.) Because of the very small number of signatures which are comparable to the death bed signature, it is virtually essential that all be studied. It is still likely that the total signature production will be far too few.

Adequate standards for these problems must in-

FIGURE 5

The Ertwein signatures shown above reveal a rather rapid decline due to illness. The lower three signatures were written in early August, a month or a month and a half before death. The check signature at the top was written in February of the same year.

clude as many signatures written during the period of decline as can be obtained. There is advantage in supplementing them by earlier, more vigorous signatures, even though they are not representative of the questioned period. These specimens do give the examiner some idea of the basic model which the writer is attempting to duplicate. When a large group of infirm signatures, say at least 25, can be obtained reasonably accurate solutions can be reached. Usually far fewer signatures are located. Then there must be serious "leaning on experience" to judge whether the questioned signature would digress from the standards in the way that it seems to. The fewer infirm signatures there are for study, the less accurately the usual case can be answered. Opinions rendered must frequently be treated most cautiously and conservatively in order to minimize errors.

The Sick Bed Signature. Infirm signatures written on a sick bed, as opposed to death bed signatures, represent badly deteriorated signatures of a writer who subsequently regains some or all of his writing vigor. A signature of this kind may have been written immediately after a serious accident or operation when it was believed essential to execute the particular document. Periods of illness, especially severe illness, are not times when one is apt to do much writing, and so there may be only

limited numbers of signatures written. Thus, the right kind of standards, therefore, are extremely difficult to locate, if they exist at all.

The writer's weakened condition is normally complicated by the fact that the signature was written while propped up in a bed or at times under worse writing conditions. The writing position, as much as the physical weakness, leads to a low quality signature. These factors must be considered in collecting standards and examining the case.

Sick bed signatures, like most of these special signature cases we are considering, can most effectively be solved with more signatures than in the general run of cases. Unfortunately, the writer may never have executed a sufficient number of signatures while sick to satisfy the true needs of the examiner. In fact, the questioned signature may be the only example written during the illness. Writing at request after recovery does not help much if the person has completely regained his writing vigor. In some instances, the person may have gone through a long recovery period during which he did some writing, and the quality of the signatures are below his pre-illness or post-recovery vigor. These specimens can be of help in giving some idea of how his signature declined and are certainly better than having to depend exclusively on his normal specimens.

CONCLUSIONS

The routine signature problem does not require the close control in selection of standards that is necessary in the class of cases discussed in this paper. Normally, ten or twenty authentic signatures written near the date in question and for the same general purpose are satisfactory standards.

We have seen, however, that there are questioned signatures by abnormal writers and signatures prepared under special conditions in which the problem of getting adequate and accurate known specimens is the most difficult phase of the

case. All classes of cases considered have one requirement in common—the need for larger quantities of writing. Most have the second need of recognizing that all but a limited group of signatures add little to the identification picture. Normally, the identification problems are especially difficult because of the lack of truly adequate and proper standards. The assembly of such standards may at best be very difficult in itself; at worst, may be impossible. But we must not assume the latter until a truly well-directed search has exhausted all hope.