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The Questioned Typewritten Document

Winsor C. Moore

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The trial of a case involving a questioned typewritten document requires that the attorney be familiar with the unique problems of irregularity and forgery and the technical details of proof in such a case. Professor Moore here outlines the rudiments of a questioned document case, suggesting some of the more apparent indications of irregularity and forgery, and the steps to be taken in preparation of the case.

Winsor C. Moore*

I. Introduction

SINCE its invention in 1868, the typewriter has become almost indispensable for transacting business affairs.[1] As a result, lawyers have come to depend to a great extent upon documentary proof of this nature in many of their cases and it has become increasingly relevant to prove or disprove typewritten documents upon which opposing counsel rely. Unfortunately, however, a great number of irregular or forged typewritten documents escape detection by attorneys who have never been trained to scrutinize this kind of an instrument for possible evidence of invalidity. Further, even if counsel suspects irregularity or forgery, the average practicing attorney does not know how to test the authenticity of a document, nor how its genuineness can be attacked and proven at a trial.[2]

Although part of these difficulties may be explained by the technical niceties of proof in such a case, for the most part this lack of perception can be explained by the misconception, held by many lawyers and judges,[3] that typewriting cannot be positively identified

* Professor of Law, Creighton University; Examiner of Questioned Documents.

1. Christian Latham Sholes, inventor of the typewriter, in 1872 believed that the typewriter would be regarded as a novelty and after a short time forgotten. Osborn, Questioned Documents 605 (2d ed. 1929). The Remington Company first placed the typewriter on the market in 1873, but it was not until 1879 that the first practical machine appeared. Osborn, Problems of Proof 428 (1926).

2. "If lawyers would become acquainted with [questioned document] experts in their cities, they woud be amazed to learn of the almost invaluable assistance available to them in every case involving questioned documents." Goldstein, Trial Techniques § 21 (1935).

3. In Osborn, Questioned Documents 583 (2d ed. 1929), it is stated that hundreds of important cases involving disputed typewriting have been tried but

as the work of a particular operator or a particular typewriter. As a consequence of this misconception, and the state of unquestioning acceptance it has caused, many persons have effectively used the typewriter to perpetrate fraudulent transactions.[4] But, contrary to the popular notion, a typewritten instrument is more easily proved irregular or a forgery than any other type of written instrument.[5] Hence, while there have been attempts to disguise typewritten material as genuine, the fabricated product is generally discernible to the trained document examiner.[6] This is because every typewriter possesses characteristics of its own and can be identified by applying the same principles which underlie the identification of handwriting and handwritten specimens.[7] Thus, in *Illinois v. Loeb*, a ransom note was conclusively identified as having been typed on a typewriter which was the property of Leopold.[8] More recently, in *United States v. Hiss*, there was a conclusive identification that a specific typewriter had been used to reproduce various restricted government documents.[9]

It is true that questioned document problems arise infrequently in the transactions of the average practitioner. He should, nevertheless, possess at least a workable knowledge of the common characteristics of an irregular or forged typewritten document.[10] Also, he should be familiar with the ways in which such a question can be presented[11] and should never presume the validity of a

there are still lawyers here and there who apparently have never heard of them and courthouses where a disputed typewriting has never been considered. Although written in 1929, the statement is undoubtedly still true today.

4. "To the uninformed, the [typewriter] seems to afford an excellent opportunity for concealment, and, it is altogether probable that, in very many instances it has been an effective ally of fraud." OSBORN, PROBLEMS OF PROOF 427 (1926). "No doubt a great many fraudulent typewritten papers have entirely escaped suspicion and served their evil purposes because of the erroneous assumption that the fraudulent character of a typewriting could not be exposed." OSBORN, QUESTIONED DOCUMENTS 582 (2d ed. 1929).

5. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 48 (1956).

6. Gayet, *Efforts at Disguise in Typewritten Documents*, 46 J. CRIM. L., C. & P.S. 867 (1956).

7. OSBORN, QUESTIONED DOCUMENTS 598 (2d ed. 1929).

8. See Wood, *The Loeb-Leopold Case*, 1 AM. J. POL. SCI. 339 (1930).

9. 185 F.2d 822 (2d Cir. 1950), *cert. denied*, 340 U.S. 948 (1951), *motion for new trial denied*, 107 F. Supp. 128 (S.D.N.Y. 1952). See also Packer, *A Tale of Two Typewriters*, 10 STAN. L. REV. 409 (1958).

10. It is now well settled that forgery may be committed by the use of a typewriter. The earliest case was State v. Bradley, 116 Tenn. 711, 94 S.W. 605 (1906). See also United States v. Goldsmith, 68 F.2d 5 (2d Cir. 1933), *cert. denied*, 291 U.S. 681 (1934), which involved the forgery of a typewritten signature.

11. Disputed typewriting questions can be presented in a number of ways. For instance, it may be imperative to determine (1) whether the date, words or figures of the documents have been changed; (2) whether the typewriting was done in one continuous operation, or whether one part was written at one time and another part at a later time, on one machine or on different machines; (3) whether the additions, alterations or interlineations were written at the same time on the same

document without a proper examination.[12]

This article will acquaint the attorney with some of the obvious manifestations of irregularity or forgery of a typewritten document, how the authenticity of a particular typewritten document may be tested, and the proper steps the attorney should undertake to prepare a case in which the validity of a typewritten document is crucial.

II. Manifestations of Typewritten Forgeries

All irregularities in a typewritten document do not necessarily mean that the instrument was originally forged or that there has been a fraudulent alteration. There may be a satisfactory reason for the apparent inconsistency. Nevertheless, the suspicious aspects of the typewritten document should be investigated immediately to ascertain whether there is some plausible explanation for the irregularity. Questioned documents, like accused persons, are presumed to be innocent until proven guilty.[13]

A. Variation in type, overtyping and retyping

Whenever a document appears to have been written in different styles or sizes of type, a thorough investigation should be undertaken to determine whether there is a satisfactory explanation for the variation. The style of type indicates a particular formation of the letters and numerals. Each style of type, *e.g.*, Roman, Gothic, Executive, is distinctive. Manufacturers, always striving to improve their machines, periodically change their styles, and consequently the date of a style change might be significant in determining when a particular document was typed. The size of the type is regulated by the style of type to occupy a designated space and number to the inch;[14] most typewriters have either pica or elite size of type.[15]

Should typing appear over other typing which was not first erased, the attorney should ascertain whether the overtyping occurred with or without fraudulent intent. Any overtyping should

machine, or written at different times on different machines; (4) whether typewritten pages have been substituted or inserted in the document without authority, or after the document was formally executed; (5) whether the typewriting is an original or a copy; (6) whether the document was written by a particular operator on a particular machine; or (7) whether the typewriting corresponds with the date, number and model of the machine on which it is purported to have been written. See Baker, Law of Disputed and Forged Documents 451 (1955).

12. It is wise to turn over to an Examiner of Questioned Documents every document which the lawyer does not *personally* know to be genuine. Goldstein, Trial Techniques § 23 (1935).

13. Cassidy, *Chemical Reactions from Typewriters*, 33 J. Crim. L. & C. 188 (1942).

14. Proportional type is based on the size of letters rather than on the number of letters to the inch.

15. Pica type has ten letters to an inch; elite type has twelve letters to an inch.

alert the conscientious attorney to ascertain how and why the overtyping occurred.[16]

Any erasure and retyping lends itself to suspicion of fraudulent alteration. This is especially true when the retyping has been done with different size type.[17]

B. Interlineations and substitutions

When typewritten interlineations appear in the body of a document, the attorney should ascertain whether the same typewriter was used for the interlineation, and if so, whether the interlineation was made at the time the instrument was originally prepared, or whether the interlineation occurred subsequently with fraudulent intent. An apparent difference in the color of the ribbon used in the interlineation should arouse suspicion immediately.[18]

If a document consists of several typewritten pages, it is possible to withdraw one or more pages and substitute fraudulent matter prepared at a later date. In cases where this is done, the substituted pages may not have been written by the same operator or on the same machine, although an attempt was made to have the typewriting appear similar so as not to cause suspicion.[19] An attorney examining any document consisting of more than one page should consider the kind and condition of the paper used throughout, the style and size of the typewritten letters and numerals, the spacing, margining, alignment, punctuation, and color of the ribbon and its condition. Any variation of these features appearing on the different pages of the document will justify an examination to determine the authenticity of the instrument.[20]

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16. In Brien v. Davidson, 225 Iowa 595, 281 N.W. 150 (1938), the date on the instrument was changed from December 1, 1928, to December 1, 1927, by typing a "7" over the "8."

17. "An examination of the original deed shows that the consideration was first written, 'one dollar and other valuable considerations'; that this was partially erased and over it was written 'nine thousand dollars' . . . . The deed was prepared in the office of a local bank where there were two typewriters of different size type. . . . The type used to write the words 'nine thousand dollars to us in hand,' was different from that first used." Lollis v. Lollis, 191 Ark. 199, 202, 85 S.W.2d 732, 734 (1935).

18. Fraudulent interlineations often occur in a completed document. Thus, in Hansen v. Leadbetter, 124 Wash. 313, 214 Pac. 626 (1923), where a clause was subsequently inserted in a deed, the court stated: "The appearance of the original deed, which is before us, is that it had the words, 'This conveyance is subject to a certain mortgage in favor of one Henry Mohler for the sum of $750.00', inserted in the deed after it had been drafted. At the end of the description is a line of x's and dashes to the end of the line, indicating that the deed had been finished at that place. At the end of the line after the x's and dashes, the word 'This' is inserted with the same machine and ribbon, but the following line commences at a different place, a little to the left, and the next line at a little different place, to the left, thus indicating that the paper had been removed from the typewriter and afterwards replaced." *Id.* at 315–16, 214 Pac. at 627.

19. BAKER, LAW OF DISPUTED AND FORGED DOCUMENTS 476 (1955).

20. In Bartholomew v. Walsh, 191 Mich. 252, 258, 157 N.W. 575, 577 (1916), the court stated: "In order to show that the original minutes were not genuine, the

Some typewritten documents may not show any evidence of fraud on their face, although fraud is involved. It is possible that an entirely new typewritten document was substituted, and a person in good faith signed the substituted document. For instance, in the case of *In re Estate of Bundy*,[21] an aged man asked his attorney to re-draft his will according to his directions and send it to his home for execution. The attorney abided by the request, but the will was intercepted by a daughter. She re-typed the will on her own typewritter, changing the dispositive provisions, and presented it to her father as though it were the document prepared by his attorney. Suffering from poor eyesight, her father executed the will in the presence of witnesses who were told by him that it was his will. He had not read the will, nor had he requested it be read to him. The attorney who drafted the new will had inadvertently destroyed his copy. However, through the diligent efforts of another attorney, the above facts were substantiated and the will was denied probate.

When a typewritten document consists of more than one page, an inspection of the method of fastening might reveal that there may have been a substitution of one or more pages. Most paper fasteners cannot be removed readily without causing some damage to the paper.[22] Furthermore, if original pages and carbon pages are fastened together to form a document, the diligent attorney will endeavor to ascertain a satisfactory explanation for the discrepancy.[23]

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plaintiff produced as a witness one Betzoldt, who claimed to be an experienced typewriter operator. . . . It was his claim that an examination of the official minute book showed that page 5 of the book had been written by a different operator on a different typewriter than page 6, as indicated by the alleged differences in the type, in margining, in punctuation, in capitalizing, and in the watermarks on the paper."

21. 153 Ore. 234, 56 P.2d 313 (1936).

22. In Kane's Estate, 312 Pa. 531, 168 Atl. 681 (1933), it was stated:

> [The will] consisted of two sheets of paper and a backer; the first sheet contained all the dispositive provisions; only the testimonium clause, with decedent's signature, and the attestation clause, with the signatures and addresses of the witnesses, were on the second sheet. When produced by proponents, these two sheets were bound together by a backer of grey paper, fastened at the top by three eyelets, designated in the evidence as Bates Eyelets. . . . The evidence supports the finding that out of the three eyelets used to bind the instrument, the middle eyelet had been removed and had been again replaced, with slight damage, readily observable, to the paper. . . . [I]t is suggested that a document bearing decedent's signature, and originally bound with only one eyelet, was altered by the removal of the first page and the substitution of another first page as it now appears, and the addition of the attestation clause on the second page, followed by rebinding with three eyelets, two of which had not been used originally, the middle one filling, and somewhat enlarging, the puncture made by the first binding.

Id. at 536, 540–41, 168 Atl. at 682, 684. See also Barnes v. Bess, 171 Va. 1, 197 S.E. 403 (1938), where one of the irregularities in a will offered for probate, was the manner in which the manuscript cover was fastened to the pages inserted.

23. In the will contest of Barnes v. Bess, *supra* note 22, the court stated: "A

C. Alignment and spacing

Unless a special typewriter is used, such as an IBM proportional spacing typewriter,[24] all letters and numerals in a document should appear in a symmetrical pattern, horizontally as well as vertically, and equally spaced. Thus, when malalignment is so excessive that it is patently visible that the letters or numerals do not correspond vertically or horizontally with other typing, it is quite evident that the document has been removed from its original position and reinserted or readjusted for the typing which appears out of balance. Divergencies in alignment are always a warning signal of fraudulent intent, but many times an explanation will be satisfactory, such as a mechanical defect in the machine.

The typewriter is also mechanically adjusted to write single, double, and triple spacing and all lines are *exactly* parallel. Irregular line spacing indicates that the paper may have been removed and at some later time replaced in the machine for additional writing.[25]

D. Typewritten signature and typewriting above genuine signature

Although a typewritten signature can be proved as authentic and, therefore, constituting a valid signature for some legal purposes,[26] a typewritten signature to a letter or other document warrants close scrutiny to determine the circumstances surrounding the typing. Infrequently, fraudulent typewriting has been discovered above a genuine signature. The original document may have been written in pen or ink, eradicated after the signature was written, and then different provisions written above the genuine signature.[27] Any cramped typewriting and general distortion of the subject matter should arouse suspicion of an irregularity in the instrument. The substituted typewriting may require more space than was anticipated, or some part of the typewriting may come in contact with a part of the genuine signature which is sufficient to show that the typewriting was done subsequent to the original.[28]

Cases have been discovered where the contents of a personal letter have been erased or eradicated and a short will or a promissory

physical inspection of the typewritten will of 1932, offered for probate consisting of three pages, shows on its face the following irregularities: (1) the first page is an original and the second and third pages are carbon copies. . . ." *Id* at 6, 197 S.E. at 405.

24. In proportional typewriting, each character is printed in symmetrical relation to every other letter regardless of the number of letters to the inch.

25. In Barnes v. Bess, 171 Va. 1, 197 S.E. 403 (1938), the court noted an irregularity in the spacing of the will which was offered for probate.

26. 80 C.J.S., *Signature* § 7 (1953).

27. In People v. Staigers, 92 Cal. App. 628, 268 Pac. 923 (1928), defendant prepared a letter in pencil and after obtaining the signatures of his employees, he erased the pencil writing and typed a contract of employment at a stated salary and commission.

28. BAKER, LAW OF DISPUTED AND FORGED DOCUMENTS 483 (1955).

note typed over the genuine signature after death. Also, wills and other documents have been typed over the genuine signature of persons who autographed or otherwise signed the fly-leaf of a book. The ragged condition of one edge of the paper might be indicative of this circumstance.

E. Color of ribbon and carbon copy

Even though the instrument was typed entirely with a ribbon of one color, the exact tint of the color might vary enough in shades of lightness and darkness to arouse suspicion of fraudulent intent. If any part of a document shows that a different colored typewriter ribbon was used, further investigation is in order.[29]

If a carbon copy does not exactly conform to the original document, which can be ascertained by transmitted light when the document and copy are superimposed, it indicates that there has been an alteration or substitution. Malalignment of added material is quite likely, inasmuch as once the original and carbon are reinserted into the typewriter, further aligning of the hidden carbon is virtual guesswork.[30]

III. Determination of Authenticity

A. Availability of document experts

Should an attorney doubt the validity of the document after making the preliminary examination, he should realize that throughout the United States there are trained questioned-document examiners who are able to make a detailed scientific examination of disputed typewriting.[31] These examiners render impartial opinions[32] through the use of various types of microscopes, test plates, protractors, and many kinds and sizes of cameras with a wide selection of lenses for making photographs and photomicrographs.[33]

All information received by a reputable document examiner will

29. In General Motors Acceptance Corp., v. Talbott, 39 Idaho 707, 230 Pac. 30 (1924), the date of the promissory note appeared as "February 14, 1921" but it was apparent that an erasure and change of date had occurred. The figures "19" were printed; the figure "2" appeared in black typewriting and the remainder of the date appeared in blue typewriting. All the other typewriting on the note had been done with a black typewriter ribbon.

30. Hilton, Scientific Examination of Documents 59 (1956).

31. The name and location of a trained document examiner can be obtained from several sources. Other local attorneys might know about the ability or reputation of a document expert in the vicinity. "Experts" listed in the classified section of the telephone directory should never be utilized until their qualifications have been thoroughly investigated. *Martindale-Hubbell Legal Directory* and the advertisement section of the *American Bar Journal* might be consulted. For a general discussion, see Swett, *How to Select and When to Employ a Handwriting Expert*, 14 Ala. Law. 1431 (1953).

32. Code of Ethics No. 1, American Society of Questioned Document Examiners. (The entire Code of Ethics of the American Society of Questioned Document Examiners can be found in 40 A.B.A.J. 690 (1954).)

33. Goldstein, Trial Techniques § 26 (1935).

be deemed confidential and once a matter has been undertaken, the document examiner will refuse to perform any services for any person whose interests are opposed except by express consent of all concerned.[34]

B. Preservation of questioned document by attorney

As soon as the validity of a particular document is questioned by an attorney, he should take immediate steps to preserve the original condition of the instrument. It is advisable to use a protective envelope of sufficient size to prevent folding. The document should be kept in a dry place away from excessive heat and strong light. Furthermore, the document should not be handled excessively nor should it be mutilated by repeated refolding, cutting, or tearing. Should it become necessary to handle a fragile instrument repeatedly before the case comes to trial, cellophane or some other type of transparent covering should be employed. Moreover, if the situation warrants, an attorney might have an enlarged photograph made of the condition in which he received the instrument.[35]

C. Acquisition of typwriting standards by attorney

If an attorney desires to know the particular make and model of the typewriter used in typing a document, or wants to determine the approximate date an instrument was typed, all that is necessary in most instances is to forward the disputed instrument to a trained document examiner who will, if the typing is clear and sufficient in quantity, be able to render an opinion. This determination is usually based upon a comparison of the type in the document with type of a known make and model of typewriter, or with the type of a typewriter known to have been manufactured on an approximate date. However, if a certain suspected machine is involved or if a particular operator is sought to be identified, then the attorney, before submission of the disputed document, should acquire a sufficient number of genuine typewriting specimens, which are commonly referred to as "typewriting standards." These typewriting standards are transmitted to the document examiner with the disputed document so that the examiner can make a comparison. Accurate identification of a suspected machine or of an operator rests in a large measure upon the quality of the standards.[36]

To identify the particular typewriter used in drafting a specific instrument, the typewriting standards from a suspected machine

34. Code of Ethics No. 3, American Society of Questioned Document Examiners. See 40 A.B.A.J. 690–91 (1954).

35. Hilton, *The Care and Preservation of Documents in Criminal Investigation*, 31 J. CRIM. L. & C. 103 (1940).

36. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 238 (1956).

may be composed of material which has been written on the machine from day to day in the course of business or private affairs, or the standards can be specially prepared from the suspected typewriter. Either collected or prepared typewriting standards, or both, may be used to identify a suspected machine. However, regardless of the type of typewriting standards procured by the attorney, the amount of typewriting should be of sufficient quantity so that the document examiner can make a conclusive identification. Actually, the amount of typewritten material necessary will vary with each case, but as a rule, the more standards submitted to the document examiner, the more accurate will be his examination. The typewritten standards, whether collected or prepared, should, if possible, be similar in wording to that of the disputed instrument. Also, regardless of whether the typewritten standard be collected or prepared, it should approximate the date of the questioned document.[37]

For successful identification of the typist, a large amount of known material must be acquired for comparison with the questioned document. Unlike handwriting identification, in which skill does not have a bearing on how much known writing is needed, the more skillful the typist, the greater the quantity of typewritten material necessary to make a positive identification.[38]

Should the attorney be in doubt concerning proper standards to be collected or prepared, he should consult the document examiner by whom the final examination will be made. The examiner undoubtedly will be able to inform the attorney where the necessary standards for identification can be obtained from existing sources or how standards for identification can be prepared from the suspected machine.

If the attorney contemplates using the opinion of the document examiner in an actual trial, the attorney should select for standards of comparison only writings which can unquestionably be admitted

37. *Id.* at 239.

> In some cases it is desirable to secure the machine, but in most cases it is much more important to obtain proved specimens written on the machine on the exact, or approximate date, of the disputed typewriting. The work of a typewriter is constantly changing as a result of use, and the dated work of a machine is therefore usually preferable to the machine itself. In case the typewritten document is of current date, or very recent, then the possession of the machine is desirable.

OSBORN, PROBLEMS OF PROOF 350 (1926).

38. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 250 (1956). Even though typing of operator is done under a pretext, the specimen is admissible. See, *e.g.*, Hartzell v. United States, 72 F.2d 569 (8th Cir. 1934) (accused, a stenographer, on request, voluntarily wrote a letter on her typewriter from the dictation of an officer to secure her release on bond; primary purpose of officer, as assistant district attorney, was to obtain a specimen of defendant's typewriting and her signature to be used at her trial).

into evidence. It sometimes happens that an attorney turns over to his expert writings to be used as standards which the attorney cannot prove in court. This precludes the document examiner from using the photographic preparation he has made for the trial and his testimony is thereby nullified or greatly weakened.[39]

D. Report of the document examiner

After making a scientific examination of questioned typewriting, the document examiner will be in a position to render a report of his findings and an opinion. A judicious document examiner will not give an opinion of genuineness until he has completed his detailed examination of the document in question. During the progress of the examination, it might be necessary for the document examiner to request additional standards or other material from the attorney who submitted the document.

In rendering a report to the attorney who submitted the typewritten document for examination, some examiners will merely furnish a certificate with or without explanation. Usually, however, the written report will contain a recitation of the matter submitted for examination, the problem involved, opinion, type of examination made, reasons for the opinion given, and lastly, some general remarks. Most document examiners have their own methods of preparing a report and, consequently, the style of the report will vary with the examiner and with the type of document submitted for examination. Often the document examiner will attach enlarged photographs to his report which will tend to substantiate his opinion. These photographs, when attached, do not necessarily indicate that the document examiner is ready to testify concerning the matter.

A document examiner cannot give an unqualified opinion concerning the genuineness of every document submitted for examination. The condition of the questioned document, lack of proper standards, or insufficient time to make an adequate examination might warrant a qualified opinion or no opinion at all.[40]

It is the practice of most document examiners to discuss fees at the time of the initial inquiry or when undertaking employment. However, the precise amount is often deferred until the report of examination is rendered. In fixing fees, the document examiner relies upon the same basic factors as the attorney when the latter bills his clients. Thus, the fee of the document examiner depends upon such items as the amount of time consumed on the case; importance of the case, either financial or otherwise; office expenses and materials used in the case; financial sacrifice incurred while

39 GOLDSTEIN, TRIAL TECHNIQUES § 28 (1935).

40. See Code of Ethics No. 4, American Society of Questioned Document Examiners. See 40 A.B.A.J. 690–91 (1954).

attending the trial; customary fees; and the responsibility assumed by the document expert.[41] It is unethical for a document examiner to take a case on a contingent fee basis.[42]

IV. Preparation for Trial

A. Preparation of document examiner for trial

Should the opinion rendered by the document examiner be favorable to the attorney who submitted the document for examination, and a trial is foreseen in which the document examiner will be called to testify about his findings and opinion, the attorney should notify the examiner immediately so that the examiner will have sufficient time to prepare his testimony and support it by photographic or other types of exhibits. Too often attorneys procrastinate until a few days before the trial and then notify the examiner that his presence as a witness is desired. An ethical examiner may withdraw from a case if he does not have sufficient opportunity to organize his notes and prepare exhibits which will present the results of his examination in a logical and convincing manner to the court and jury.[43]

In order to make the testimony of the document examiner more effective, the competent document examiner, when desirable, will prepare enlarged photographs showing, for instance, a comparison between genuine and disputed typewriting, or some specific detail, such as the sequence in which certain words or letters were typed. The questioned document examiner is constantly preparing photographic exhibits for his own preliminary examinations and for court trials and the attorney can well rely upon his judgment concerning the subject matter, size, arrangement, and the like.[44]

B. Pre-trial conference between attorney and document examiner

After the document examiner has organized his notes and prepared necessary photographic exhibits which will support his testimony, it is imperative that the examiner and the attorney, who will call the examiner as an expert witness, confer to insure successful court presentation. Specifically, at this pre-trial conference, the

41. Doud, *Answering the Cross-Examiner on Expert Witness Fees*, 2 J. For. Sci. 88 (1957). One who has devoted years of time and study to a particular subject when called upon to testify with reference to that subject, should receive greater compensation than one who has given less study and consideration. See Lyon v. Oliver, 316 Ill. 292, 147 N.E. 251 (1925) (disputed typewritten document case).

42. Code of Ethics No. 7, American Society of Questioned Document Examiners. 40 A.B.A.J. 690, 691 (1954).

43. The document examiner has his own reputation to protect inasmuch as he considers himself independent and not an advocate for either side of the controversy. Hilton, *Education and Qualifications of Examiners of Questioned Documents*, 1 J. For. Sci. 35 (1956).

44. Hilton, Scientific Examination of Documents 286 (1956).

trained examiner will be prepared to assist the attorney, who is on the equitable side of a questioned document case, in the following matters: (a) when and how the testimony of the examiner should be presented; (b) how standards can be proved for admissibility; (c) what standards should be used in the particular case; (d) when the standards should be introduced into evidence; (e) how the qualifications of the examiner can be established;[45] (f) how photographic enlargements can be introduced and used; and (g) preparation of questions which the attorney can use on cross-examination of laymen and "experts" who will testify against the facts for the opponent.[46] Some legal training on the part of the examiner, especially in the field of evidence, is invaluable at this pre-trial conference. After a pre-trial conference with a qualified document specialist, the attorney will realize the strength and weaknesses of his case insofar as it depends on the validity or invalidity of the questioned document.[47]

All trained document examiners possess an extensive library of texts and other material concerning questioned documents. Moreover, most, if not all, qualified document examiners maintain a file of appellate decisions concerning the admissibility of standards, photographs, testimony of expert witnesses, and in fact, all phases of questioned documents. At the pre-trial conference, the document examiner will usually refer to this material and thereby render invaluable assistance to the attorney who contemplates calling the examiner as a witness.[48]

V. TRIAL

A. Order of procedure

Usually before a typewriting expert is permitted to testify, known specimens of typewriting must *first* be admitted into evidence as a foundation for his testimony. When the typewriting expert is thereafter called as a witness, his qualifications must be established. The various typewritten documents are then presented to him for his

45. Usually, the examiner will either give the attorney a list of questions to introduce his qualifications and testimony or give the attorney a summary of his qualifications and an outline of his direct testimony.

46. See Lacy, *A New Profession Has Lawyers as Clients*, 39 A.B.A.J. 477 (1953).

47. Hilton, *Pre-Trial Preparation and Pre-Trial Conferences in a Questioned Document Case*, 27 TUL. L. REV. 473 (1953).

48. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 293 (1956).

> The well qualified examiner has at his command the legal citations pertaining to any question which will probably arise in the trial of a document case and the lawyer should consult him regarding any legal questions he anticipates will arise in the case. The attorney should have the expert submit to him written questions pertaining to his qualifications and the manner in which he is prepared to develop the case. The attorney and the expert should confer together upon the proposed cross-examination of opposing experts.

GOLDSTEIN, TRIAL TECHNIQUES § 25 (1935).

opinion, his photographic exhibits admitted into evidence, and the appropriate questions asked in order that he can fully discuss the facts and reasoning upon which his opinions are based.[49]

B. Proof of typewriting in general

Under what is frequently referred to as the common-law rule, evidence concerning the genuineness of *handwriting* is limited to (a) the testimony of a lay witness who has actually seen another write at least once; (b) the testimony of a lay witness who is familiar with the handwriting of the person in question; and (c) the testimony of an expert witness based upon standards of comparison already in the case for some other purpose.[50] Many early courts believed that to allow the testimony of a handwriting expert based upon a comparison with genuine writing which was not already in the case to be considered as a standard, would create an issue outside the controversy itself. It has now been universally established in American courts that genuine writings may be admitted *solely* for the purpose of comparison by the court or jury or by expert witnesses who, upon the basis of comparison, are permitted to express opinions and give reasons relative to the authenticity of the handwriting in question.[51]

But in most disputed handwriting cases, the problem of proof is essentially different from the problem of proof in most questioned typewriting cases. When there is disputed *handwriting*, the issue usually revolves around proof of genuineness of the document. In disputed *typewriting* cases, however, the issue usually centers upon whether a particular typewriter was used to type the instrument or whether a particular operator typed the instrument. In other words, in most disputed handwriting cases the problem is one of proving *genuineness*, rather than proving *identity* as in most typewriting disputes. If there are erasures, over-writing, under-writing, obliterations, and like matters within the body of the instrument, the element of proof would be practically the same regardless of whether the alterations appear in disputed handwriting or typewriting. Proving the original text of the matter would be the primary issue.

49. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 296 (1956).

50. The genuineness of someone's signature may not be proved by comparison with other admittedly genuine handwriting or signatures neither admissible in evidence for other purposes nor already a part of the record. People v. Frowley, 185 Ill. App. 338 (1914). See also Osborn, *Progress in Proof of Handwriting and Documents*, 24 J. CRIM. L. & C. 118 (1933).

51. 20 AM. JUR. *Evidence* §§ 742–54, 835–48 (1939). 28 U.S.C. § 1731 (1952) provides: "The admitted or proved handwriting of any person shall be admissible, for purposes of comparison, to determine genuineness of other handwriting attributed to such person." Most, if not all, states have a similar statute. See, *e.g.*, NEB. REV. STAT. § 25–1220 (Supp. 1958), which reads: "Evidence respecting handwriting may be given by comparisons made, by experts or by the jury, with writing of the same person which is proved to be genuine."

"Handwriting" has been defined as including, generally, whatever the person has written with his hand[52] whereas "typewriting" has been held to be the process of printing letter by letter with the use of a typewriter.[53] A will entirely typewritten by a testator has been denied the status of a holographic will because it was not in the "handwriting" of the testator.[54]

Few appellate cases have involved the specific issue of whether typewriting could be deemed handwriting within the meaning of a statute authorizing a comparison of a disputed writing with any writing proved to be the genuine handwriting of the party.[55] In *People v. Storrs*,[56] which involved the question of forgery of a typewritten will, the court remarked that it might be considered doubtful whether typewriting could be deemed handwriting within a statute authorizing a comparison of a disputed writing with any writing proved to be the genuine handwriting of the party. Yet the instrument written upon the typewriter in question was held admissible for the purpose of comparison on the theory that *identity* of instruments possessing defects or peculiarities might be established by proof of the defects or peculiarities impressed by them upon material. The more recent case of *Register v. State*,[57] held that the statute providing for comparison of handwriting by experts is applicable only to disputed handwriting, as distinguished from typewriting. Furthermore, the court in the latter case, stated that the common law rule pertaining to the admission of questioned handwritings for comparison with known writings, unless otherwise already admitted in the case, is inapplicable to questioned typewriting. With regard to admissibility, the court stated:

> The typewriting exhibits in this case were not admitted for the purpose of determining the genuineness of any writing, but to determine the identity of the machine upon which they were written. Any peculiarities in the writings were the result of the mechanical action of the machine

52. Commonwealth v. Webster, 5 Cush. (Mass.) 295, 52 Am. Dec. 711 (1850); Alexander's Estate v. Hatcher, 193 Miss. 369, 9 So. 2d 791 (1942).

53. *In re Dryfus*, 175 Cal. 417, 165 Pac. 941 (1917); State v. Oakland, 69 Kan. 784, 77 Pac. 694 (1904). See however Hunt v. Dexter Sulphite Pulp & Paper Co., 100 App. Div. 119, 91 N.Y. Supp. 279 (Sup. Ct. 1905); where the court stated generally that typewriting has largely taken the place of handwriting and may well be considered handwriting.

54. *In re* Dryfus, supra note 53; Adams' Ex'x v. Beaumont, 226 Ky. 311, 10 S.W.2d 1106 (1928). *Contra*, *In re* Aird, 28 Can. Sup. Ct. 235 (Qué. C. S. 1905).

55. See note 51 *supra*. These statutes are limited to comparison of handwriting. Extension of statutes to include typewriting would apparently not be feasible in the case of juries because comparison of typewriting is not as readily perceived as handwriting. On the other hand, a statute permitting typewriting comparison only by an expert could be criticized on the ground that the evidence is being unduly restricted.

56. 207 N.Y. 147, 100 N.E. 730 (1912). In Wolf v. Gall, 176 Cal. 787, 169 Pac. 1017 (1917), it was held, generally, that "typewriting" is not "handwriting" within meaning of statute allowing expert's opinion as to who executed a writing.

57. 34 Ala. 505, 42 So. 2d 519 (1949).

rather than any controllable human effort. They would be the same whether X or Y pressed the keys. The situation is therefore analogous to the comparison of tire tracks, or foot or finger prints, or bullet markings. The principles concerning admissibility of this type of evidence are too well settled to require citation.[58]

Although courts have held that "typewriting" is not "handwriting," several decisions have stated that "typewriting" is a "writing." "Typewriting," for instance, has been considered a "writing" within the purview of the Statute of Frauds,[59] and within a statute providing that when an instrument consists partly of written and partly of printed matter, the writing controls the printed form where the two are inconsistent.[60]

Some states[61] provide that before a standard of writing will be admissible in evidence for comparison, reasonable notice must be given to the opposite party or his attorney. Inasmuch as "typewriting" is not considered "handwriting" within the meaning of current statutes allowing handwriting comparison, and the statute providing for prior notice to the opposite party before admittance into evidence seemingly relates solely to authentication of handwritten documents, it would appear that such a requirement is technically inapplicable to a typewritten instrument. Typewritten documents, as indicated by the two outstanding cases on the subject to date,[62] have been admitted on the same theory as tire tracks, footprints, or finger prints, and usually in this area of identification it is not necessary to give the opposite party prior notice before such matters are admitted into evidence.

When it becomes necessary to prove a disputed typewritten document by testimony of an expert after comparison with standards, the admission of proper standards sometimes becomes an important matter. Standards can be established for comparison in a variety of ways. For instance, a person who witnessed the typing of a particular document or who received a series of typewritten

58. *Id.* at 508, 42 So. 2d at 523.

59. In Deep River Nat'l Bank Appeal, 73 Conn. 341, 47 Atl. 675 (1900), it was held that a letter dictated to a stenographer, and by the latter typewritten, and signed with the name of the person dictating it, by means of a rubber stamp, was within the Statute of Frauds.

60. Mack Inv. Co. v. Dominy, 140 Neb. 709, 1 N.W.2d 295 (1941); New Masonic Temple Ass'n v. Globe Indemnity Co., 134 Neb. 731, 279 N.W. 475 (1938); Petersen v. City of Omaha, 120 Neb. 219, 231 N.W. 763 (1930); American Surety Co. v. School Dist. No. 64, 117 Neb. 6, 219 N.W. 583 (1928); Flower v. Coe, 111 Neb. 296, 196 N.W. 139 (1923). If, however, a typewritten portion in a printed form is changed by a handwritten notation, the typewritten portion will be considered as "printed" within the meaning of the statute. Acme Coal Co. v. Northrup Nat'l Bank, 23 Wyo. 66, 146 Pac. 593 (1915). See also Annot., *Typewritten Matter as Written or Printed Matter*, 1915D L.R.A. 1084.

61. See, *e.g.*, ILL. CODE ch. 51, § 51 (1957).

62. Register v. State, 34 Ala. 505, 42 So. 2d 519 (1949); People v. Storrs, 207 N.Y. 147, 100 N.E. 730 (1912).

letters or documents through the mail[63] may testify to these facts. When an expert testifies relative to his comparison between genuine and disputed typewriting, the comparison need not be based on evidence already in the case for some other purpose. Most, if not all, courts now hold that typewriting standards are admissible for comparison only and need not be related otherwise to the evidence in the case.[64] Specimens of typewriting taken from a suspected machine for the sole purpose of making a comparison by an expert, are admissible in evidence as standards.[65] And the person who prepared the specimen of typing from the suspected machine, may testify to this effect.[66] Furthermore, one who witnessed the preparation of the typewriting specimen is competent to testify in the proof of such a standard.[67]

When the location of the typewriter is unknown and the issue is the identity of the make and model of typewriter upon which the disputed typing occurred, the problem sometimes arises whether sample specimens of various typewriters, possessed by most document examiners, are admissible as standards for comparison. Most courts will permit the document examiner, who maintains a systematic research program for the collection of type styles from

63. In Huber Mfg. Co. v. Claudel, 71 Kan. 441, 80 Pac. 960 (1905), the court held that the opinion evidence of an ordinary witness, who had received other typewritten letters from the same person in reply to letters sent such person, was admissible in evidence to prove whether instruments were written on a certain typewriter belonging to the alleged author. See also Davis v. State, 25 Ga. 512, 103 S.E. 819 (1920), where the court admitted in evidence a typewritten letter which a witness testified he received in due course of mail. Although these cases indicate that such testimony established the identity of the machine used without additional expert testimony, nevertheless in a proper case, there appears no reason why the opinions so expressed by lay witnesses cannot serve as standards of comparison for the expert.

64. In Huber Mfg. Co. v. Claudel, *supra* note 63, and State v. Freshwater, 30 Utah 442, 85 Pac. 447 (1906), both courts held that opinion evidence was admissible to prove whether instruments were written on a certain typewriter belonging to the alleged author. The opinion in the former case was given by an ordinary witness who had received other typewritten letters from the same person in reply to letters sent such person; and in the latter case, by an expert witness who compared the writing in question with other typewriting of the particular machine. In both cases, it appears that the instruments with which the witness made comparison in order to form an opinion were already in evidence in the case. See Annot., *Comparison of, and Expert Witness as to, Typewriting*, 45 L.R.A. (n.s.) 860 (1913). However, in People v. Storrs, 207 N.Y. 147, 100 N.E. 730 (1912), the court apparently held that a comparison could be made although the evidence was not already in the case for another purpose.

65. People v. Storrs, *supra* note 64. Specimens of typewriting made on the machine in defendant's office two days subsequent to the alleged offense, were properly admitted as standards for comparison in People v. Risley, 214 N.Y. 75, 108 N.E. 200 (1915).

66. In Grant v. Jack, 116 Me. 342, 102 Atl. 38 (1917), cited with approval in People v. Storrs, 207 N.Y. 147, 100 N.E. 730 (1912), the court allowed the introduction of a paper prepared by a witness upon defendant's typewriter.

67. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 297 (1956).

different machines, to testify that a specific sample is from his file and therefore admissible as a standard for comparison.

C. Qualifications of typewriting expert to testify

The document examiner testifies in court under the usual expert witness rules, and it is generally within the discretion of the court to decide whether the background and work which the examiner has done is sufficient to classify him as an expert.[68]

Innumerable cases have held that a document examiner can testify as a typewriting expert after his qualifications show that he is competent in this particular field.[69] For the most part, courts have been exceedingly lenient in allowing persons to testify as typewriting experts.[70] If the witness can show sufficient knowledge and familiarity with the typewriter and its work, the presiding judge will invariably permit him to testify and express an opinion on the matter in controversy. Trained document examiners and qualified local or factory mechanics who construct and repair typewriters are perhaps the best potential sources of typewriting experts for the attorney who has a disputed typewritten document case.[71]

D. Testimony of the typewriting expert—generally

After the typewriting expert has been qualified, he can proceed to his principal testimony. His purpose is to assist the court and jury to reach their verdict. While his testimony may be favorable to one side of the case, the examiner is not advocating for either of the litigants; his appearance is only to present his unbiased opinion of what he believes to be the truth from his scientific examination.[72]

68. *Id.* at 297–98.

69. See, *e.g.*, Hartzell v. United States, 72 F.2d 569 (8th Cir. 1934), *cert. denied*, 293 U.S. 621 (1934) (handwriting expert was permitted to identify exhibits which were typewritten, using other typewriter standards); Lyon v. Oliver, 316 Ill. 292, 147 N.E. 251 (1925).

70. See, *e.g.*, Bartholomew v. Walsh, 191 Mich. 252, 157 N.W. 575 (1916), where an "experienced typewriter operator" was permitted to testify concerning the fraudulent insertion of minutes of a corporation meeting in the official minute book. In Lyon v. Oliver, *supra* note 69, the manager of a local office of the Royal Typewriter Company testified that he made a microscopic examination of the keys of the typewriter of a rented typewriter and compared them with the letters in dispute. Also, in Western Bottle Mfg. Co. v. Dufner, 186 Ill. App. 235, 236 (1914), the court held proper "the admission of testimony of a witness familiar with typewriting, to the effect that the postscript was written by the same machine with which the body of the letter was written. . . ." And in Harlan v. Blume, 190 S.W.2d 273 (Mo. Ct. App. 1945), the trial judge ordered photographs of disputed letters to be made and apparently called a typewriter salesman and repairman to testify to differences.

71. Of course, there are limitations to this rule. In Millman v. Drew, 223 App. Div. 691, 229 N.Y. Supp. 336 (Sup. Ct. 1928), it was held that a particular witness lacked sufficient experience and familiarity with the facts to express an opinion.

72. Code of Ethics No. 5, American Society of Questioned Document Examiners. See 40 A.B.A.J. 690–91 (1954).

He is merely a trained observer who points out, explains, and evaluates for the purpose of identification, the characteristics of the typewriting submitted to him so that the court or jurors may fully understand and give due consideration to this evidence. The expert points out the peculiar characteristics existing which might otherwise pass unnoticed and explains them in such a way that a court or jury can feel justified in accepting his conclusions.[73]

Direct testimony actually consists of two parts: the introductory questions leading up to and including the opinion of the witness, and that portion of the testimony in which the witness explains or gives the reasons for his opinion. The introductory questions are necessary to show what documents have been examined, the purpose of their examination, what photographs have been made so they can be introduced into evidence, whether the witness has arrived at an opinion, and, finally, what that opinion is. In certain classes of problems, it may be well to bring out how the examination was made. The order of the questions depends somewhat on the problem.[74]

For many years expert testimony concerning disputed typewriting, even when it was correct, was unscientific, consisting mostly of mere expressions of opinions without the ability to point out grounds for them. More recently, especially during the past thirty years, scientific methods have developed and experts are now better able to point out reasons or facts which may aid the judge or jury, and which may even, as the courts have expressed it in some handwriting cases, amount to a demonstration.[75] An opinion expressed by a typewriting expert will be of greatest value when his testimony is supported by clear and explicit reasoning and demonstrated by appropriate photographs.

The rule is well settled that photographs in disputed document cases are admissible if relevant to the issue in the case and if verified. Although the determination of relevancy of a photograph is left to the discretion of the trial judge,[76] as a general rule the photographs must assist the document examiner in his testimony to explain facts which are obscure in the originals.[77] There is no legal

73. See Wakeley v. State, 118 Neb. 346, 225 N.W. 42 (1929) (handwriting expert).

74. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 299 (1956).

75. See Annot., 1918D L.R.A. 642.

76. 32 C.J.S. *Evidence* § 716 (1942).

77. It is well to establish by the witness himself that he needs the photographs in order to fully explain his reasons. This step gives considerable protection to the side offering the photographic exhibits because if the trial court errs in excluding them, the fact that the witness said they were necessary for his opinion and testimony may serve to show that the erroneous exclusion of the evidence should be considered serious enough to warrant a reversal of the case. See HILTON, SCIENTIFIC EXAMINA-

presumption that photographs offered in evidence are correct, and consequently it is necessary that the photographs be verified. Usually, photographs in typewritten document cases have been made by the document examiner or under his supervision and his testimony concerning the conditions under which the photographs were prepared will ordinarily be sufficient verification. The sufficiency of the verification of a photograph as constituting an accurate reproduction of the original, is a preliminary question of fact to be decided by the trial judge, and his ruling will not be disturbed on appeal unless an abuse of discretion is shown.[78]

E. Value and weight of expert testimony

As a general rule, whether a witness is qualified as an expert, whether a particular typewriting is sufficient as a standard, whether a photograph is an accurate reproduction of the original, and similar matters, are questions for the judge to decide. However, when the typewriting expert testifies, the value and weight that should be given to his opinion is a jury question.[79] The value of the opinion of a typewriting expert as evidence depends upon the clearness with which the expert demonstrates its correctness.[80]

Expert typewriting testimony is tested and weighed by the same rules as the testimony of other witnesses.[81] However, the value of such testimony varies with the circumstances of each particular case, and in weighing such testimony, its nature and character are to be taken into consideration. Testimony of an expert witness is not to be discredited solely by the amount of his compensation.[82]

TION OF DOCUMENTS 300 (1956). It is no objection to the admissibility of a photograph that it is enlarged, showing the subject or object magnified, where this does not have a tendency to mislead. 32 C.J.S. *Evidence* § 709 (1942). See also Annots., *Use of Photographs in Examination and Comparison of Handwriting or Typewriting*, 31 A.L.R. 1431 (1924); *Authentication or Verification of Photograph as Basis for Introduction in Evidence*, 9 A.L.R.2d 899 (1950).

78. SCOTT, PHOTOGRAPHIC EVIDENCE 473, 701 (1942).

79. Kerr v. United States, 11 F.2d 227 (9th Cir. 1926), *cert. denied*, 271 U.S. 689 (1926); Grant v. Jack, 116 Me. 342, 102 Atl. 38 (1917); Bartholomew v. Walsh, 191 Mich. 252, 157 N.W. 575 (1916).

80. In Levy v. Rust, 49 Atl. 1017 (N.J. Eq. 1893), the court discussed in detail how the expert on typewriting gave convincing reasons for his testimony. Also, in *In re* Cravens' Estate, 206 Okla. 174, 242 P.2d 135 (1952), expert document examiner convinced the court, contrary to testimony of attestors, that alterations in a will were typed by a different person than the one who typed original will. The court stressed the need for experts in disputes over typewritten documents. See also State v. Swank, 99 Ore. 571, 195 Pac. 168 (1921); State v. Freshwater, 30 Utah 442, 85 Pac. 447 (1906). The necessity for reasoning in connection with expert testimony dealing with disputed typewriting is also exemplified in Hedgepeth v. Coleman, 183 N.C. 309, 111 S.E. 517 (1922). For general discussion see Annot., *Expert Testimony — Handwriting and Typewriting*, 1918D L.R.A. 642.

81. Hedgepath v. Coleman, *supra* note 80; Lyon v. Oliver, 316 Ill. 292, 157 N.E. 251 (1925).

82. Lyon v. Oliver, *supra* note 81.

F. Testimony concerning mathematical probabilities

Although there are thousands of typewriters using the same style and size of type characters, each typewriter possesses an individuality of its own because of type defects, malalignment, or some other peculiarity. The coincidence that two typewriters will have precisely the same defects or other identifying features, is highly improbable. This determination of improbability of coincidence is based on the principle of mathematical probabilities.[83]

The outstanding case relative to testimony concerning mathematical probabilities is *People v. Risley*[84] where a professor of mathematics testified in the trial court that, by the application of the law of mathematical probabilities, the chance of the same defects as were shown by the inserted words being produced by another typewriter was so small as to be practically a negative quantity. On appeal, admission of the testimony was *held* improper because the witness was not qualified as an expert in typewriting; he had never made a study of such work, or of the machine claimed to have been used for the purpose of interpolating words in the document offered in evidence, nor did he take into consideration in arriving at his result the effect of the human operation of such a machine; that is, whether the same defects would always be discernible, no matter who was the individual operating the machine. Consequently, the testimony of the mathematics professor was not based upon actual observed data but was simply speculative. However, although it was held that the basis of the mathematical testimony offered was defective, it would seem that testimony of this character would be permissible under appropriate circumstances where there is a proper basis for it.[85]

G. Proof that a particular typewriter was used

Every typewriter possesses its own individuality[86] which can be established by the character of its type impressions on the paper. These characteristics of typewriting can be analyzed, compared and differentiated and can be *positively* identified as those of a particular typewriter. To prove that two instruments were written on a particular typewriter, similar coincidences of characteristics

83. BAKER, LAW OF DISPUTED AND FORGED DOCUMENTS 461 (1955).

84. 214 N.Y. 75, 108 N.E. 200 (1915).

85. See Annot., 106 A.L.R. 730 (1937). Actually, very few document examiners use mathematical calculations respecting probability in court testimony because there are two main difficulties: (a) defining or delimiting single characteristics (where one leaves off and another begins), and (b) correctly determining the frequency of occurrence of single characteristics.

86. The individuality of typewriting as a means of identifying a particular machine was first definitely established in the case of Levy v. Rust, 49 Atl. 1017 (N.J. Eq. 1893). "The distinctive character of the work done on different machines is usually determined with absolute certainty." AMES, FORGERY 117 (1899).

must be shown in both instruments, and these coincidences considered collectively must compel a single conclusion.[87]

When a typewriter is first placed on the market, it is as nearly perfect as the manufacturer can make it,[88] but through use, the typewriter gradually develops certain imperfections in alignment and in type face.[89] A typewriter is designed so that each character prints an even, uniform impression resting on or across an imaginary base line and centered within a designated space along this line. But in practice the alignment is not always perfect. Some characters print above or below the proper position or to the right or left of it; others are twisted on their axis so as to lean away from the proper slant; and still others are "off their feet," which means that the type faces strike the paper surface unevenly so that one edge or corner gives a heavier impression than other parts of the letter, rather than the uniformly inked impression of a properly writing letter.[90] At times a letter may consistently print appreciably too heavy or too light or may rebound, printing two impressions not quite superimposed. The foregoing individualities or peculiarities are commonly referred to as alignment defects.[91]

The type face defects, on the other hand, consist of actual breaks in the impression, resulting from chips or bumps in the type metal, and dented or irregular outline of a letter due to damage in the type face itself. Defects are for the most part small, many requiring careful examination with test plates or under magnification, but with a thorough and detailed study each can be discovered.[92] If a proven specimen of work produced upon a cer-

87. BAKER, LAW OF DISPUTED AND FORGED INSTRUMENTS 451, 452 (1955). In Rudy v. State, 81 Tex. Crim. 272, 195 S.W. 187 (1917), it was held that under the rules for comparison of handwriting there was no error in permitting witnesses qualified to give opinions to testify that two letters were written upon the same typewriter as that upon which a letter admittedly coming from the appellant was written.

88. "The adjustments and tolerances of a typewriter are not so fine that it is impossible to distinguish differences in the work of some new machines." HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 184 (1956). "Even when new, typewriters do not produce work that is perfectly aligned." SCOTT, PHOTOGRAPHIC EVIDENCE 363 (1942).

89. The work of any number of machines inevitably begins to diverge in different ways as soon as they are used, and, as there are thousands of possible particulars in which differences may develop, it very soon is possible to identify positively the work of a particular typewriter if the writing in question includes clear impressions of a sufficient number of the characters and a sufficient amount of genuine writing is furnished for comparison.

OSBORN, QUESTIONED DOCUMENTS 592 (2d ed. 1929).

90. "Undoubtedly, the most common defect in a newly manufactured machine, or one in good repair, is a series of uneven impressions, letters off their feet. Final alignment at the factory often fails to eliminate these defects completely." Hilton, *Identification of Typing*, 48 J. CRIM. L., C. & P.S. 219, 220 (1957).

91. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 185, 186 (1956).

92. *Id.* at 186–87. "The machine may reveal the identity of the work through its

tain typewriter corresponds identically with a disputed specimen in all of several defects, irregularities, and imperfections of the work, that fact would be pertinent and material to the question of whether the disputed specimen was produced upon the same typewriter.[93]

Variations in alignment, slant, and unevenness of impression of certain letters can be demonstrated and proved by enlarged photographs in which the same characters from standards obtained from the suspected machine can be placed in juxtaposition with the characters from the questioned document.[94]

The question sometimes arises whether samples of what is deemed to be perfect alignment or perfect type faces can be introduced into evidence in order to demonstrate how the alignment of type or the type faces vary from what manufacturers label their state of perfection. No appellate cases have been found on the subject but it is believed that most trial courts would allow such evidence as relevant. However, a few trial courts have been known to reject the evidence because the standards were unrelated to the issue.

The problem of a "forged" typewriter is a rarity because to exactly duplicate the work of another machine is an extremely complicated and difficult task. Every character must be accurately designed to agree with the age and model of the machine copied. Moreover, all characters must be accurately adjusted and damaged so that the machine writes with exactly the same combination of correct and incorrect character impressions as the typewriter being imitated. Only twice in reported cases have attempts been made to build a duplicate typewriter. The first effort took place in 1911 in *People v. Risley*,[95] and although only two words were in issue, *viz.*, "the same," the errors committed on the machine in the attempt to duplicate these two words were clearly pointed out by expert testimony. The second attempt occurred sometime in 1950 as part of the defense in the perjury trial against Alger Hiss.[96] In support of an argument for a new trial following the conviction of Hiss in January, 1950, it was contended that a dup-

imperfections, such as battered letters, lack of alignment, and the strikingly individual characteristics that may characterize each machine." WHARTON, CRIMINAL EVIDENCE § 587 (12th ed. 1955). See also, SCOTT, PHOTOGRAPHIC EVIDENCE 362 (1942).

93. Grant v. Jack, 116 Me. 342, 102 Atl. 38 (1917). *Accord*, Lyon v. Oliver, 316 Ill. 292, 147 N.E. 251 (1925); People v. Storrs, 207 N.Y. 147, 100 N.E. 730 (1912); State v. Swank, 99 Ore. 571, 195 Pac. 168 (1921), citing Grand v. Jack, *supra*; State v. Freshfater, 30 Utah 442, 85 Pac. 447 (1906). See also Hedgepeth v. Coleman, 183 N.C. 309, 111 S.E. 517 (1922), where the evidence identified both the typewriter and the operator.

94. SCOTT, PHOTOGRAPHIC EVIDENCE 363, *passim* (1942).

95. 214 N.Y. 75, 108 N.E. 200 (1915).

96. United States v. Hiss, 185 F.2d 822 (2d Cir. 1950), *cert. denied*, 340 U.S. 948 (1951), *motion for new trial denied*, 107 F. Supp. 128 (S.D.N.Y. 1952).

licate typewriter could be made and was actually made by an employed experienced mechanic. However, the judge ruled that the machine was not a perfect duplicate.[97]

H. Proof that typing was done on a specific date

It is not often possible to show by the typewriting itself, and that alone, exactly when a paper was written, but it is often possible to show conclusively that it could not possibly have been written until after a certain definite date.[98]

The first fact to be considered in investigating the date of a typewriting is to find when a certain kind of machine, the work of which is in question, first came into use, and then it is important to learn, and to be able to prove, when any changes in the machine were made that affected the written record.[99] A more definite conclusion regarding the dated preparation of typewriting can generally be reached when the questioned and standard typewriting were prepared at different dates than when they were written at the same time.[100]

I. Proof that typewriting was not continuous

A document may indicate that a different operator wrote part of the contents or that the document was removed and reinserted. Proof of noncontinuous typing might be shown by evidence that all of the lines are not parallel,[101] or that the letters are not aligned vertically, or that some of the typewritten material is of a different color,[102] or perhaps by showing that the impression of all the type characters on a carbon copy are not uniform and consistent with the original.[103]

The trained document examiner is well equipped to assist the

97. For a detailed discussion of the *Hiss* case, concerning the issue of a "forged" typewriter, see Packer, *A Tale of Two Typewriters*, 10 STAN. L. REV. 409 (1958).

98. Oliver v. Oliver, 340 Ill. 445, 172 N.E. 917 (1930) (proof showed that will was typed on a Remington No. 10 typewriter which did not come on the market until four years after date of will); *In re* O'Brien, 93 Vt. 194, 107 Atl. 487 (1919) (one of the findings of the commissioners was that the agreement had been written on a Hammond typewriter which was not manufactured until several years after the date of the agreement). See also *Gamble v. Second Nat'l Bank*, 4 MICH. ST. B. J. 267 (1925), in which there was no appeal and hence no decision in reports, where proof showed that document in question could not have been written until at least 31 years after its date.

99. OSBORN, QUESTIONED DOCUMENTS 586 (2d ed. 1929).

100. HILTON, SCIENTIFIC EXAMINATION OF DOCUMENTS 198 (1956).

101. In Lyon v. Oliver, 316 Ill. 292, 147 N.E. 251 (1925), the court noted that the last line of an exhibit was not written parallel to the line above it.

102. In General Motors Acceptanace Corp. v. Talbott, 39 Idaho 707, 230 Pac. 30 (1924), part of the typing appeared to have been done with a blue ribbon and part with a black ribbon.

103. A slight deviation or malalignment in typing is insufficient. Bernard v. Francez, 166 La. 487, 117 So. 565 (1928).

attorney in proving that a particular typewriting was not continuous. If there has been an alteration or substitution made with a typewriter of a different style or type, an enlarged photograph showing a comparison will usually be sufficient. If the same typewriter was used to make an alteration or substitution, and it is necessary to prove that the instrument was removed and reinserted, the competent document examiner might make an enlarged photograph under a ruled glass test plate to show that the altered passage is not properly aligned with the remainder of the typewritten page. It is virtually impossible to take a sheet of paper out of a typewriter and then reinsert it so that typing can be added that will be in perfect alignment with the remainder. If the typewritten lines are not parallel, an exhibit might be constructed to show that if the lines were extended beyond the document, they would ultimately converge.[104]

Another fact that can be shown by enlarged photographs is the difference in inking between the alteration and the remainder of the document. If an alteration is made as the document is typed, there ordinarily will be no noticeable difference in the tint of the ink, but if the alteration is made at a subsequent time, it may be impossible for the typist to match the inking of the body of the document perfectly.[105]

If an alteration or substitution has been made with a typewriter ribbon of a different make or grade, it is sometimes possible to make enlarged photographs and compare the number of threads in the suspected typing with that of the original document.[106]

J. Proof from ribbon that a particular typewriter was used

Examination of a typewritten impression can usually reveal the following points of identification: (a) whether a cloth or a paper ribbon was used; (b) the number of threads per inch if a cloth ribbon was used; (c) the color of the ribbon; (d) the intensity of the color due either to original inking or wear of the ribbon; and (e) the nature of the toner used to give the ribbon its color.[107]

104. SCOTT, PHOTOGRAPHIC EVIDENCE 367, 368 (1942).

105. *Id.* at 368, Tabor v. Tabor, 213 Ky. 312, 314–15, 280 S.W. 134, 135 (1926): "A close scrutiny of the typewritten words of the exhibit now before us discloses beyond all question that the words which were added were written with a typewriter equipped with a ribbon much older and much dryer than that on the typewriter which wrote the rest of the document." See also, Baird v. Read, 217 Ky. 71, 75, 288 S.W. 1014, 1015 (1926) where the court stated: "[W]e are able to discern that the figures '$10,550.00' were not written at the same time and with the same typewriter ribbon as the balance of the instrument. . . ."

106. SCOTT, PHOTOGRAPHIC EVIDENCE 369 (1942).

107. Ink used for typewriter ribbons is composed of a mixture of carbon and vegetable, animal, or mineral oil combined with "toners," either pigments or dyes added to give the proper intensity of blackness.

These points of identification are only indicative but not conclusive to prove from the ribbon that a particular typewriter was used in typing the questioned document. If these points of identification coincide with an identification by type characteristics, they become corroborative and confirmatory.

No chemical tests have been developed by which it is possible to estimate how long typewriting has been on the paper, but by comparison with a series of typewritten papers over an extended period, a conclusion may be reached. Careful study of the degree of wear as shown in dated ribbon impressions and matching of its condition in the disputed document can give a close approximation to the date of preparation.[108]

K. Proof that a particular operator typed the document

In many instances, the identity of the typist may be determined.[109] Different habits of touch, spacing,[110] speed, arrangement,[111] punctuation,[112] spelling,[113] or incorrect use of any figures or other characters may show that a document was not all written by one operator, or may show that a collection of documents was produced by several different operators. These facts often have a

108. Cassidy, *Chemical Reactions from Typewriting*, 33 J. CRIM. L., C. & P.S. 190 (1942).

109. WHARTON, CRIMINAL EVIDENCE § 587 (12th ed. 1955). The question of the authenticity of typewritten instruments and identification of the operator who typed a certain instrument has become a matter of considerable importance, and of necessity requires the assistance of experts in this field to get the correct answer. In re Cravens, 206 Okla. 174, 242 P.2d 135 (1952) (expert testified that letters "X" typewritten through certain words were not made by typist who typed original will).

110. See, for instance, the examples taken from the claim papers in an estate case found in, OSBORN, QUESTIONED DOCUMENTS 597, fig. 309 (2d ed. 1929), from which it appears that while the decedent was a self-taught operator and left no space after commas and periods, the claim papers alleged to have been written by him, were all correctly spaced. From this it was inferable that the latter were not genuine.

111. Typists vary in their choice of margins, length of lines, spacing, and paragraphing which reflect their personal habits. See State v. Uhls, 121 Kan. 377, 247 Pac. 1050 (1926), *rehearing denied*, 121 Kan. 587, 249 Pac. 597 (1926); Bartholomew v. Walsh, 191 Mich. 252, 157 N.W. 575 (1916); *In re* Bundy's Estate, 153 Ore. 234, 56 P.2d 313 (1936).

112. In the case of *In re* Bundy's Estate, *supra note* 111, where the operator who typed the will in question was identified by the character of the typewriting, the court stated: "The will makes unusual use of the colon as a punctuation mark; for instance, it is used in place of a decimal point in the sum $50.00, $100.00, and $200.00. The $50.00 sum appears three times in the will and in each instance the colon is used in place of a decimal point. Colons also appear frequently and in unusual places in proponent's letters and cards. In the letters and cards we find the same irregularity of spacing after punctuation that appears in the will." *Id.* at 241–42, 56 P.2d at 316.

113. In Joseph v. Briant, 115 Ark. 538, 172 S.W. 1002 (1914), witnesses testified that one Shirey was an illiterate man had a peculiar way of spelling words and of arranging them in letters he wrote on the typewriter. This was held to be competent evidence.

very important bearing on the genuineness of a document investigation.[114]

Matters such as spelling, punctuation, choice of words, grammar, indentations of paragraphs, spacing after punctuation, erroneous use of certain typewriting characters, all of which aid in identifying the operator, can usually be pointed out in the document itself, or on a natural size photograph. However, if there is a variation in the impressions of different characters, this fact could be demonstrated by an enlarged photograph. Some operators strike certain letters too hard and others too lightly. These habits often are followed consistently. Enlarged photographs of portions of the typewritten document showing this characteristic can be compared with enlarged photographs of test matter typed by the suspected operator. Similarly, some typists have a tendency to strike certain letter combinations in such a way that the characters run together. This occurs frequently in the "th" combination. Enlarged photographs will help to bring out such characteristics so that they can be understood by the judge and jury.[115]

VI. Conclusion

Too frequently practicing attorneys do not utilize all of the available services of a trained document examiner. This may be because they have not sufficiently examined the document for possible forgery or, if forgery is suspected, they do not know exactly how a competent document expert can assist them. No doubt many times the attorney believes that the fee of the expert is not commensurate with the amount involved in the controversy. Actually, the cost of a preliminary examination may be small compared to the time and effort expended by the attorney in developing a case only to be confronted at the trial with evidence by opposing counsel that the document is not what it purports to represent. The attorney will not only suffer public embarrassment but his reputation for being a thorough and competent attorney might diminish appreciably.

Paradoxically, the foregoing summary is essentially the same as the utterances of Quintilian, who, nearly two thousand years ago, stated:

114. Osborn, Questioned Documents 584 (2d ed. 1929). As early as 1899, it was stated in Ames, Forgery 117 (1899):

> Since typewriting has come so generally into use, the question often arises as to the identity of writing by different operators, as well as that done on different machines. This may usually be done with considerable degree of certainty. Different operators have their own peculiar methods, which differ widely in many respects, in the mechanical arrangement, as to location of date, address, margins, punctuations, spacing, signing, as well as impression from touch, etc.

115. Scott, Photographic Evidence 369 (1942).

It is therefore necessary to examine all the writings relating to the case; it is not sufficient to inspect them; they must be read through; for very frequently they are either not at all such as they were asserted to be, or they contain less than was stated, or they are mixed with matters that may injure the client's cause, or they saw too much and lose all credit from appearing to be exaggerated. We may often, too, find a thread broken, or wax disturbed, or signatures without attestation; all which points, unless we settle them at home, will embarrass us unexpectedly in the forum; and evidence which we are obliged to give up will damage a cause more than it would have suffered from none having been offered.[116]

116. OSBORN, QUESTIONED DOCUMENTS xvi (2d ed. 1929).