

FORENSIC SCIENCE  
IV SEMESTER

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### **Typewriting**

- Though the majority of type encountered today is computer generated, typewriting still appears on a variety of documents, such as pre-printed forms, envelopes, receipts, deeds, transfers, and other real estate-related forms. Each design has a specific date of introduction.
- It may be discovered that some aspect of the imprinting on the document is inconsistent with the introduction of that typewriter or element. For example, the discovery of a typewritten last will and testament dated in the 1960s and prepared using a daisy wheel would be proof that the document was not prepared at the date indicated, but rather sometime after the daisy wheel's introduction in the early 1970s.
- Computerized databases of typestyles are available to the document examiner to aid in manufacturer identification and to provide information on dates of introduction.
- These records do not establish when the document was typed, but can provide an earliest possible date of creation. A second method for dating a document through study of the typescript is the evolution of defects developed through progressive wear and tear of the machine or element.
- These defects can include broken or bent characters, filling in of letters and numerals, misalignments, bead defects, etc. As these tend to develop over time, it may be possible to establish a defect chronology and, in turn, date the questioned document with that chronology. In this circumstance, depending on the number and quality of comparison samples, it may be possible to date the document within a defined time frame.
- As with any comparative examination, a critical first step is to establish conclusively that the questioned typewriting is being compared with the actual typewriter or element used to prepare it.
- Likewise, a series of typewritten samples must have been produced on the same machine or element that was involved in the production of the questioned document.

## **Photocopiers and Printers**

- Like pens, inks, and typewriters, photocopiers and printers have evolved over the decades. In fact, many models now incorporate the two, along with faxing capabilities, in a single multiuse machine.
- The merging of these technologies has made distinguishing between a photocopy and a printed document a considerable challenge. Because some imaging systems are common to both applications, certain defects may be found in both printed and copied output. Some of the earliest copier models used a liquid toner.
- In later years dry toner became the standard. Another change saw a move from analog to digital image processing. In the past two decades, we have seen advances in inkjet technology such that it has taken a prominent position alongside electrostatic imaging. Dot matrix technology has, to some extent, fallen by the way, though it is still used in situations such as imprinting on multipart NCR (no carbon required) forms. As a result, it is still encountered from time to time in questioned document cases.
- A study of the document will generally reveal the copying or printing method used. It may be possible to determine that a document could not have been produced on the date suggested based on the availability of the copying or printing process at that time.
- For instance, a document put forward as being a first-generation copy prepared in 1975, but showing clear indications of being a digital reproduction, cannot be what it purports to be, given that the technology was not introduced until many years later. Likewise, a color copy may reveal technological advances as well as manufacturer and date coding that can be evaluated in order to determine whether or not the product was on the market around the time of the suspect document.

## **Printed Matter**

- Documents prepared on letterhead stationery or on pre-printed forms frequently contain information regarding the earliest date at which they could have been prepared.
- Pre-printed forms may bear a code indicating the date of design/printing. Changes in design or wording may provide chronological touch points that can be used to aid in establishing possible ranges of creation dates. Likewise, changes to telephone numbers, area codes, addresses, etc., on letterhead related to the individual or business establishment concerned will sometimes assist in establishing that a document is backdated. Such information may be inconsistent with the date on a fraudulent document.
- Those using pre-printed forms many times overlook this information, as they have no direct knowledge of the significance of these changes. For example, doctors often prepare patient progress notes on forms that feature advertisements for pharmaceutical and other medical products.
- Periodically the sponsor updates the forms, a fact that has been known to escape the notice of the doctors.

## **Handwriting and Signatures**

- Changes in handwriting, and more particularly signatures, sometimes occur over time. The evolution may be gradual or quite sudden, depending on the circumstances.
- An accident, illness, or the influence of alcohol and drugs can result in a profound change in writing ability. This change may be short lived or there may be a gradual improvement, but with residual characteristics remaining. Other traits develop over a much longer period.
- One example is a writer who finds himself or herself in an occupation that requires the signing of his or her name numerous times throughout the workweek.
- It is not uncommon to see such a person's signature change from a fully legible style to one that is more abbreviated and scrawled.
- The pictorial differences need not be so apparent, as subtle changes may be introduced with time, often manifesting themselves in more stylized individual letters or the combining of characters at the end of a signature.
- All have the potential to assist in dating a document.
- When studying the evolution of a signature, it is important to have a generous supply of known standards for comparison that are dated over a considerable period of time.
- One or two samples from a 3-year period is unlikely to provide a sufficient foundation to date an individual's signature, as the document examiner could not be certain that changes relate to a particular time frame, rather than being a reflection of natural variation.