Cause of Typewriter Printwheel Damage Observed in the Questioned Document

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Typing defects are used during an examination to identify a questioned element as to the method being used to produce a questioned document. Damage and wear of the typescript can be seen under magnification. This is a case study of an unusual cause of typeface damage to a printwheel, which was observed on a questioned document.

Introduction

There are two major considerations in the examination of typewritten documents: typewriter classification and typewriter identification. Numerous typewriter manufacturers obtain type fonts from the same manufacturer(s) making different brand name typewriters equipped with similar, if not identical, styles of type, thus making typewriter classification difficult. Typewriter identifications consist of comparing questioned typescript with known typescript. Three general areas of examinations were used in this described examination of questioned typewriting: the size and spacing (vertical and horizontal); the type style; and the combination of defective and correctly typed letters and characters (character and alignment defects).

Typeface defects usually consist of actual breaks or irregularities in the impression resulting from chips, bumps, dents, irregular outlines, manufacturing beads, etc., on the typeface. Traditionally, the defects found in the typed impressions derived from the typewriter or element, and have been the chief basis for identification. These defects are commonly caused by wear or damage. The cause of the typeface damage actually observed in a questioned document case, is thus interesting and specific to the examination.

Methods and Materials

The evidence examined consisted of a Smith Corona XL 1900 with typewriter ribbon, correctable ribbon, and a Smith Corona Regency 10 printwheel; along with an original of a typewritten document.

Examination was conducted using an Olympus stereoscopic binocular microscope, typewriter test grids, a typestyle magnifier, and a 35mm camera.

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Results and Discussion

Some time ago, a case was received that involved a typewriter and a questioned typed document. The evidence consisted of a typewriter, complete with a carbon film ribbon, printwheel, correctable lift-off ribbon, and an original typewritten questioned document. Visual examination of the printwheel revealed significant damage on the right foot as observed on the printwheel of the capital character "A" (Figure 1). Examination of the original questioned document revealed a typed "A" with a print defect.

The cause of the damage to the character "A" became a focal point of this examination. It revealed that the damage to the printwheel was caused during the typing of the questioned document. Imbedded into the original document was a small rock or grain of sand (Figure 2), which was struck with the character "A" on the questioned printwheel (Figure 3). The impact of the printwheel striking the rock caused damage to the character "A."

Identification of the original document as being typed with the questioned printwheel was possible. The questioned ribbon was identified as being used to type the original questioned document.

Document Examiners frequently examine questioned typewritten documents. Examiners fre-

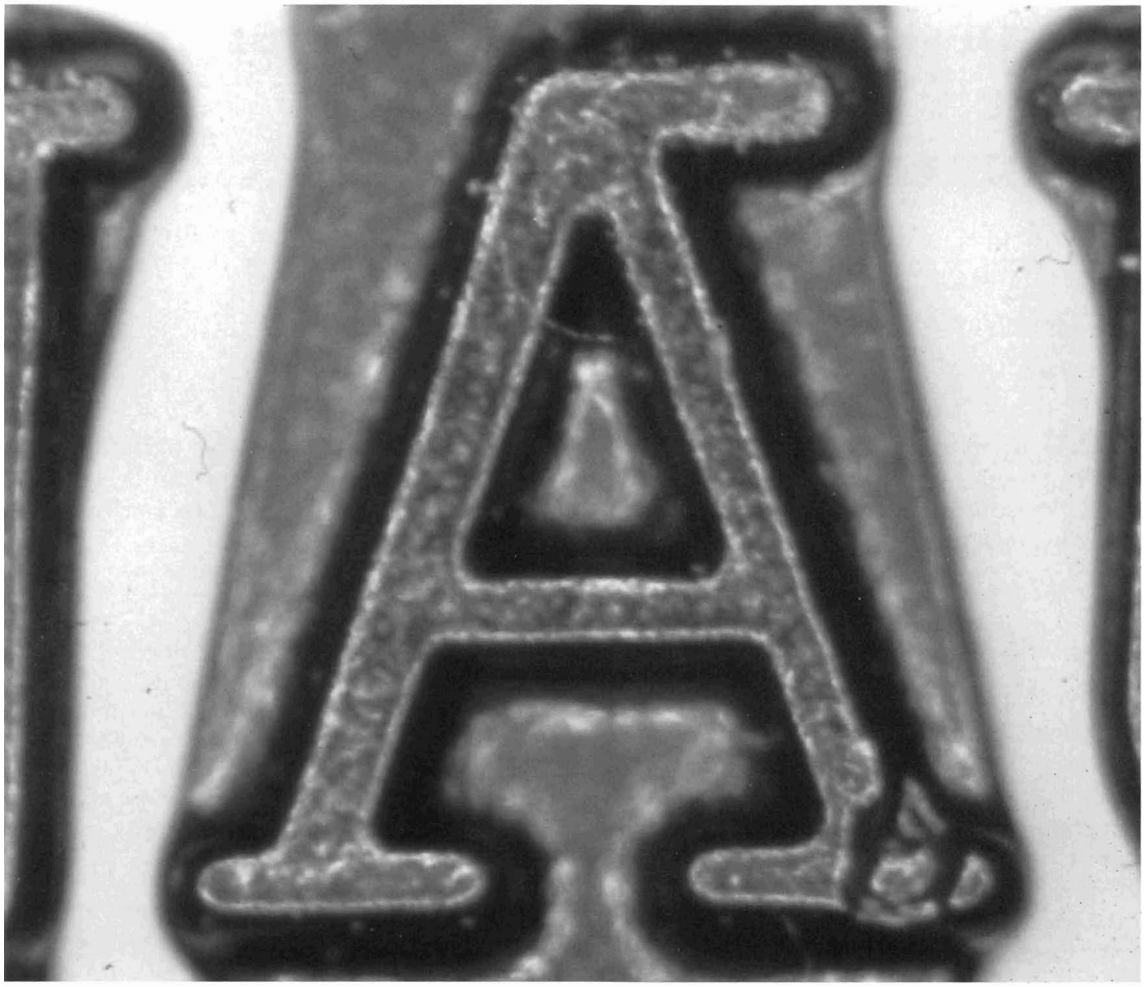

Figure 1. Damaged "A" on the questioned printwheel.

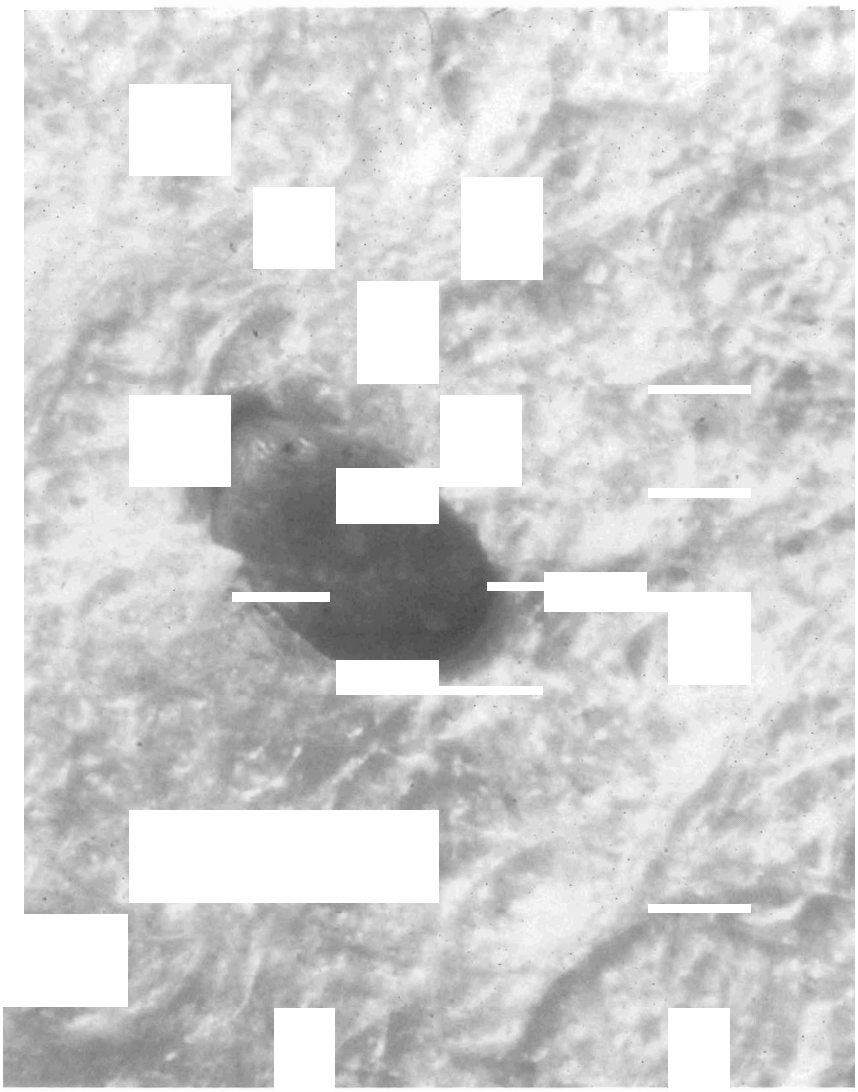

Figure 2. The grain of sand photograhed from the reverse of one of the questioned documents.

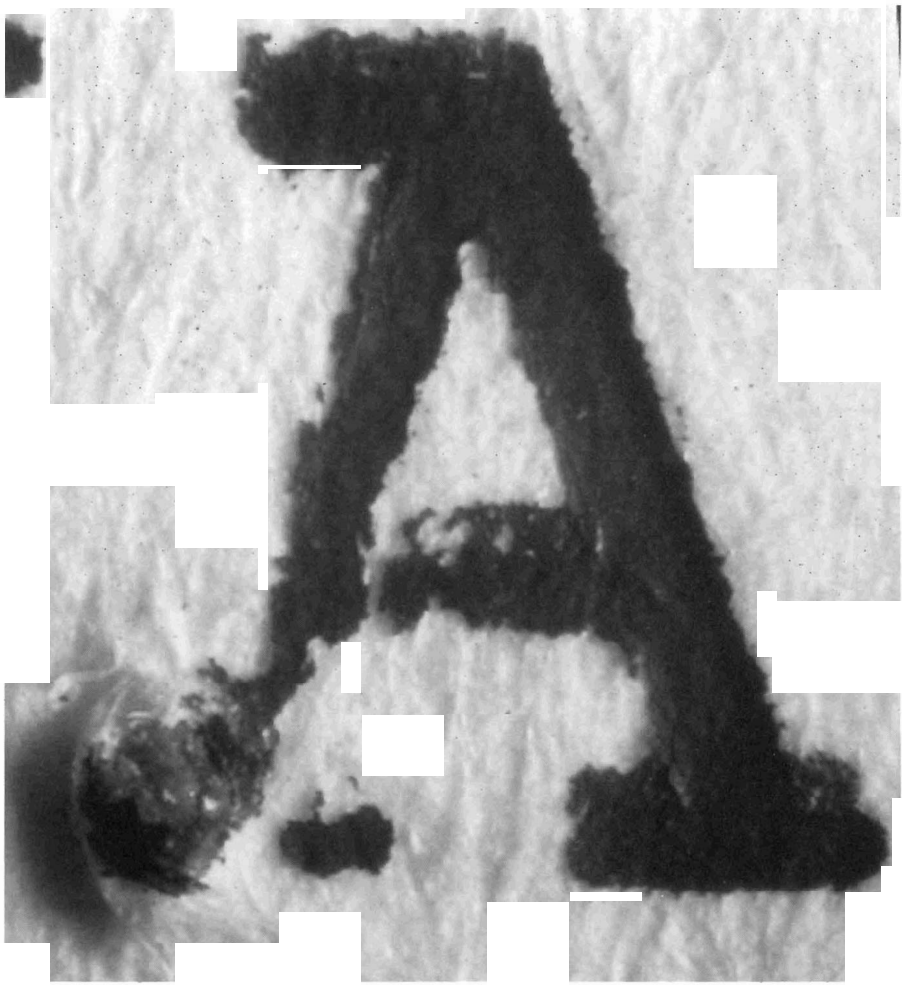

Figure 3. The grain of sand and the damage that occurred.

quently rely on damage to type elements as a basis for typewriter identification. The source of the damage is rarely observed during the examination process. This illustrates one such case and an unusual source of damage.

Acknowledgments

Greg Norman and David Deitze were instrumental in the preparing of the photomicrographs used in this examination.

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