

The Significant Contributions of Dr. Philip D. Bouffard to the Examination and Classification of Typewriting

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In 1987, Dr. Philip Bouffard began his work on developing a personal computer-based classification system for typewriting, which later became known as "TYPE." It was designed for classification of type-style specimens from the Haas Atlases. These atlases were created by Josef Haas beginning in 1972 in Germany. Dr. Bouffard's system makes use of separate classification schemes for each of the major design groups.

Introduction

Dr. Philip Bouffard took a rather circuitous route to his career in forensic document examination. He began his education at Birmingham Southern College, where he earned a bachelor's degree in chemistry. He then headed north to the University of Michigan and earned a master's degree, then a doctorate, both in chemistry. His professional work included 15 years with the NCR Corporation in Dayton, Ohio. During his tenure there he helped develop the no-carbon-required paper system that is still in use today. When NCR announced the closing of its chemical research division, it was time for Dr. Bouffard to consider what career options lay ahead.

At the time, there was a great deal being written about forensic science, especially in light of the Clifford Irving case that was then making the news. Dr. Bouffard read an article in *Chemical Engineering News* on forensic science. It included a listing of universities that offered training in the various fields. Included among them was a program at Georgetown University. He telephoned the number listed; and when a gentleman answered the phone, "English," Dr. Bouffard incorrectly assumed that he had dialed the wrong number and had reached the English Department. In fact, he dialed correctly and had reached his soon-to-be mentor, Professor Joseph English. Dr. Bouffard went for a visit and soon relocated to begin his training at Georgetown.

The program at Georgetown had been started by Joseph English in 1972. Professor English had



Figure 1. Dr. Philip D. Bouffard.

been a document examiner with the Federal Bureau of Investigation for over 25 years. The program was started through the Criminal Law and Procedure Center at Georgetown University. It was based upon the ever-present need for quality training in the field of forensic document examination. Examiners from the United States and around the world, including Saudi Arabia, Libya, Philippines, Vietnam, Canada, Chile, and Nigeria, participated in the program. Approximately 15 examiners received their training through the Georgetown course. Sadly, the program ended sometime around 1976, with the passing of Joseph English. He will long be remembered



Figure 2. Circa 1974 - Georgetown University graduates in forensic document examination: Standing left to right – Phil Bouffard (Ohio), Ndarake Ekong (Nigeria), Lamar Miller (Alabama), Jim Outland (Secret Service), Pierre Marchand (Quebec), Nguyen Tuyen (South Viet Nam), Pablo Kong (Chile), and seated Abed Abalawi (Saudi Arabia).

for his tremendous contribution to the training of so many qualified examiners, and perhaps even more for his vision of a university-based course of education for forensic document examination.

In 1974, upon completion of his training in document examination, Dr. Bouffard relocated to Painesville, Ohio to establish a regional forensic laboratory. He served as forensic document examiner and director there until his retirement in 2000. Dr. Bouffard began the laboratory as a one-man operation and left it on its way to being accredited by the American Society of Crime Laboratory Directors and employing nine scientists. In 1994, Dr. Bouffard was honored with the *Ordway Hilton Award* presented by the Questioned Document Section of the American Academy of Forensic Sciences (AAFS) in recognition for his outstanding contributions to forensic document examination. In 2003, he was presented with the American Board of Forensic Document Examiners *New Horizon Award*. It was given in recognition of his outstanding contributions for the advancement of forensic document examination through scientific research. Throughout his career, Dr. Bouffard has made many significant contributions to the field of forensic document examination, but his greatest remains his work

with typewriter classification. He presented over 11 papers on the subject and conducted numerous workshops demonstrating his typewriter classification program.

The Haas Atlas

Dr. Bouffard was first introduced to the Haas Atlas in 1986, when Dr. Peter Baier presented a paper at the annual meeting of the American Society of Questioned Document Examiners (ASQDE). The paper, titled "Do you know Josef Haas?" (1986), was coauthored by Bernhard Haas, Josef's son. For many American document examiners, it was their first introduction to the Haas Atlas. The information presented in Dr. Baier's paper prompted Dr. Bouffard to purchase a copy of the Haas Pica Atlas. The Pica Atlas was preceded by a series of publications in the German forensic literature by Josef Haas. Much of the early work done in the area of typewriter classification by others, such as Dr. David Crown (1976) and Gerry de la Durantaye (1972), was based upon the information contained in the original Haas papers, as well as the Haas Pica Atlas, which was introduced in 1972, and reissued in 1987.

In the years following World War II, Josef Haas emerged as the foremost typewriter expert in

Germany. In his position as the chief inspector of the State Bureau of Criminal Investigation in Baden-Württemberg, Stuttgart, Germany, he was able to get Ransmayer and Rodrian and Olympia to make dated design changes in their pica type. These small but detectable changes in the design of certain characters were done on a regular basis and are said to have helped Josef Haas solve numerous major typewriter cases throughout Europe (Tytell, 2003). These same design changes provided many of the design features used in Dr. Bouffard's "TYPE" classification system.

The first Haas Atlas was published with the cooperation of the Zurich Police Art Department. Each specimen in the original Haas Atlas was hand drawn by enlarging the original type design and making an artistic rendering of each—accounting for the high quality of the images. Upon his father's retirement, Bernard Haas took over the publication of the Non-Pica Atlases (1985), as well as the update to the Pica Atlas. In 1986, the Haas Compact Atlas (all type styles except pica monotone) became available to document examiners, along with an updated version of the original Haas Pica Atlas. These atlases provide a wide selection of typewriter standards (especially those from foreign, rare, or older model typewriters) and serve as an invaluable tool for document examiners in the classification of typewriting.

Sadly, Josef Haas passed away in Germany on November 11, 2003. Although he had been born in Yugoslavia, Josef Haas spent most of his life in Germany. Mr. Haas played the violin in a dance band in the 1930s, and enjoyed collecting all types of dance music from that era (Tytell, 2003). His professional legacy will long live on in the form of the Haas Atlases. They serve as the greatest available, comprehensive resource for typewriter classification.

"TYPE"—Comprehensive Index of Type Styles

Dr. Bouffard began his work with the Haas Atlases by presenting a comprehensive index for type styles in the Haas Compact Atlas to the annual meeting of the ASQDE (1988). Up until the creation of this index, a good search system for the Non-Pica Atlas was nonexistent, although a combination punch-card/page-margin search system was provided for the Compact Atlases. The two-volume Compact Atlas contains nine major type-style groups. The index Dr. Bouffard created for this Atlas consisted of 21 identifiable style groups, a typeface manufacturers' list for each of these

groups (whether typebar, ball element, or print wheel), and the page location in the Haas Atlas. This index would lay the groundwork for the future creation of a computer-based classification system for typewriting, appropriately named "TYPE."

The work by Richard Totty, et al. (1982), at the Home Office in England, using a computer-based system to classify type styles, intrigued Dr. Bouffard. His quest to try to create something similar in the United States took Dr. Bouffard to a local computer store. There he met a computer programmer to whom he described the kind of a system he was interested in setting up. The computer programmer, John McCloud, would go on to design the program used for "TYPE." Dr. Bouffard worked closely with Mr. McCloud to establish the criteria for the program and the screen setup. As Totty had done, the program was originally designed to make use of up to 30 different features to classify a type style. It would later be increased to include up to 40 features, with four columns of ten features on each screen. The primary specimen sources for this system are the Haas Atlases, so that, unlike Totty, the classification is by typeface, not typewriter.

One major concept of "TYPE," as derived from de la Durantaye, is that different type styles make use of different letters as the basis for their classification. That is, rather than using the same letters, numerals, etc. for all type styles, as Totty had done, "TYPE" uses different features for each type style. This permits greater flexibility and more efficient classification. The difficult and laborious part of creating the system was determining which features to use in the classification scheme—in other words, which features demonstrated the greatest differences and could thus be used effectively to classify the various styles of type. The manner in which Dr. Bouffard made these determinations was by photocopying each specimen and enlarging each character to one-half inch in height. He would then cut them out and place all the similar characters in a row and determine which feature best differentiated them. It was a very time-consuming undertaking but provided the most effective basis for the classification scheme.

Dr. Bouffard presented a paper titled, "A PC-Based Memo-Pad System for Locating Typewriter Standards" (1989). Although a brief description of the computer-based classification system for type styles was explained, the main purpose of the paper was to introduce the use of the *Memo-*

pad function. The *Memo-pad* is used to retrieve all pertinent information regarding a given type style, including the location of a standard specimen. Since much of the information associated with the various typefaces comes from different sources, the *Memo-pad* presents a screen in which all information is contained. It is displayed by pressing the F10 key on the keyboard.

An outline of the PC-based typewriter classification system, including a description of the basic system design considerations, was presented by Dr. Bouffard at the annual meeting of the AAFS (1992). It included examples of the various screens and menus used throughout the system.

Operation of the Classification System

"TYPE," a typewriter/type-style computer classification system, was introduced at an annual meeting of the AAFS (1995). Directions on how to load the program and system requirements were demonstrated. Once loaded, the system operates from a series of menus. The *Main Menu*, which is the first screen to appear, includes a list of four operable functions to choose from to initiate the system. They are: "Enter Classification," "Update Classification," "Query Classification," and "Set Up Screen." The "Enter Classification" function is used to enter previously unentered type-style information and specimens. The "Update" function is used to make changes to previously entered type-style information and specimens. The "Set Up Screen" function is used to create the character and descriptions used for the type-style classification. The "Query" function is used to search the system and will be the focus of the following discussion.

The first step in conducting a search involves making a selection from the nine listed major type-style groups. This step requires the trained examiner to have knowledge of the major groups and their differences. This selection is made from:

- 1) **Monotone** — the old standard type with uniform stroke width.
- 2) **Modern Monotone** — consists of more recent type styles with uniform stroke width. One of the more noticeable differences between the Modern and older Monotone type styles is the lowercase "g," which has a completely different style from one to the other. Courier was originally included in this category; however, after a later update, it was given its own class screen and is listed below the original nine as separate group "A."
- 3) **Shaded** — consists of specimens with stroke widths of varying thickness and with unit spacing. Prestige was originally included in this category. After a later update, it was given its own class screen and is listed below the original nine as a separate group "B."
- 4) **Sans Serif/Gothic** — consists of specimens having no, or almost no, serifs. Gothic typestyles include type designs with all capital letters. Sans serif was originally included in this category. After a later update, it was given its own class screen and is listed below the original nine, as a separate group "C."
- 5) **Cubic** — consists of typestyles with square-shaped "round" letters, such as the lowercase "o."
- 6) **Proportional Spacing** — consists of specimens that do not have the same unit spacing for all characters. Each character has a different number of units, depending on its size. For example, the capital letter "M" may consist of five unit spaces, while the lowercase "i" may consist of two.
- 7) **Mini** — specimens consist of small type styles that typically use 15 to 18 characters per inch. Mini type styles may have monotone, shaded, sans serif, or cubic designs. These type styles are entered twice in the system—once in the type style's design group and again in the Mini category.
- 8) **Slant** — includes all slanted type styles, including italic.
- 9) **Script** — includes type styles that appear to simulate handwritten scripts.

The second classification category is spacing. Each of the nine selections is designed so that a minimal number of commonly used spacings fit into each group. A complete range of spacing is covered in this category from "less than 2.00 mm" to "greater than 2.60 mm." Once the major type-style group has been selected, a separate screen is presented. Forty design features appear for the particular type-style group. Selections can then be made from numerals, uppercase letters, and lowercase letters. Design features which are most useful in differentiating the particular type style have been selected for their classification efficiency.

When sufficient features have been selected, a search can be initiated. This is done by pressing

the "page down" key and selecting "Query." Once the system completes the search, the typewriter specimens that match the entered criteria ("matches") are displayed in the lower half of the screen. Any of the matches can be highlighted using the up/down arrows and the *Memo-pad* function can be used to obtain further information on a particular specimen. Print options can be used to print matching specimens.

Updates of the Program

The original "TYPE" program was later revised to include separate design and search features for widely copied type styles such as Courier and Prestige (1993, 1999). These groups are now listed separately as "A" and "B" on the first screen under the original nine major type-style groups. A third upgrade was made to include the elite sans serif type-style specimens (1994). This upgrade was primarily directed at the letter gothic type styles. Other somewhat similar elite sans serif type styles such as Artisan, Dual Gothic, OCR-B, Shaded Sans Serif, and a miscellaneous subgroup are also included. This group of type styles is now listed separately as "C" on the first screen. Another update was made for the cubic type styles (1996). An upgrade was also made to include the script styles of type (1997). "TYPE" was designed from the beginning to be an open-ended system where additions and upgrades could be made as necessary.

The Haas Typewriter Atlas CD Set

The difficult and time-consuming work of Philip Bouffard and Josef and Bernard Haas has culminated in a recently compiled compact disk (CD) collection which includes the Haas Atlases and the "TYPE" program. This work was compiled through the diligence and efforts of Andrew Szymanski, a document examiner with the Lake County Regional Forensic Laboratory. Andrew Szymanski was trained by Dr. Bouffard and worked on the "TYPE" project as an intern. The collection is being offered through the ASQDE. For the first time, all of this valuable information is presented in a convenient, compact format.

Conclusion

Many times through the years, this author heard Philip Bouffard say, "I wonder if anyone even cares about all of this typewriter stuff anyway?" As he labored through the various stages of this project, he doubted that typewriter classification would really be something most examiners would be

interested in. Well, it seems safe to say that, based upon the attendance at the workshops he presented and the number of CD sets that have been sold, there has been tremendous interest in the document community for such a worthwhile resource. The document community commends Dr. Bouffard for all of his work and devotion to the "TYPE" classification system.

Acknowledgment

The author, who was fortunate enough to have been trained by Philip Bouffard, is grateful for all his knowledge and wisdom that he so willingly shared and for the opportunity of becoming a part of such a fascinating and rewarding profession. It has always been a privilege to be associated with him.

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