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# WOMEN AUTHORS OF TECHNICAL WRITING TEXTBOOKS FROM 1923 TO 1973

by

MELISSA NICOLE WAMPLER

A THESIS

Presented to the Faculty of the Graduate School of the

MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

In Partial Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE IN TECHNICAL COMMUNICATION

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Approved by

Dr. Edward A. Malone, Advisor
Dr. Michael D. Wright
Dr. Daniel Reardon

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## ABSTRACT

The published histories of technical writing textbooks do not usually include many women-authored textbooks. To find out why women-authored textbooks have been marginalized in these pedagogical histories, I selected seven women-authored textbooks and four men-authored textbooks published from 1923 to 1973, investigated the backgrounds of the authors and key features of their textbooks, and used the collected data to compare the women-authored textbooks to the men-authored textbooks. I was not able to find any reason why the women-authored textbooks have been or should be marginalized in histories of technical writing textbooks; however, my study had several limitations. My thesis begins the process of recovering the contributions of these women textbook authors to the history of technical communication.

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# 1. INTRODUCTION

Several studies have examined the history of technical writing textbooks. These studies, however, pay little attention to textbooks written by women. The only woman-authored textbook that has received more than passing attention is Sada A. Harbarger's *English for Engineers* (1923). The purpose of my research was to locate all pre-1970 technical writing textbooks by women and investigate why they might have been marginalized in our textbook histories. I identified seven textbooks written by women (or co-authored by men and women) and compared them to four textbooks written by men. All of these textbooks were published between 1923 and 1973. After analyzing the backgrounds of the women and men authors and the features of their textbooks, I could not find any reason to explain why the women-authored textbooks have been or should be marginalized in our histories of technical writing textbooks. My thesis begins the process of recovering these women's contributions to the academic history of technical communication.

## 1.1 LITERATURE REVIEW

In my search of technical communication scholarship, I located at least ten books and articles that discussed textbooks in technical writing/communication. Some of these sources took an historical perspective.

Fountain (1938) surveyed selected faculty members at major universities about the state of technical writing instruction at their institutions, including the textbooks they were using. He identified approximately 30 textbooks, only four textbook editions by two

women authors: two editions of Sada Harbarger's *English for Engineers* and two editions of Emma Yule's *Preparation of Scientific and Technical Papers*.

Light (1963) provided an analysis of 17 "well-known texts," focusing on readability, editing and proofreading, graphics, and indexing (p.4). However, he did not name the 17 textbooks he used for his analysis. He used a number system for identifying the textbooks, making it impossible to say whether he considered any women-authored textbooks.

Souther (1989) provided an overview of the academic history (1920s to 1989) of technical writing. He mentioned more than 25 textbooks, including several that were authored or co-authored by women, such as Harbarger's *English for Engineers*, Yule's *Preparation of Scientific and Technical Papers*, Peg Blickle's *Reports for Science and Industry*, and Henrietta Tichy's *Effective Writing for Engineers, Managers, and Scientists*.

In his article, Hagge (1995) examined 20 technical writing textbooks published from 1908 to 1935 for their "ideas about disciplinary discourse in early 20th-century engineering writing pedagogy exists" (p. 443). His sample textbooks included one textbook by a woman author: Harbarger's *English for Engineers* but not Yule's *Preparation of Scientific and Technical Papers*.

Warren (1996) took an "informal look" at 46 technical writing textbooks published from 1908 to 1970, but he did not reveal which books were used (p. 155). Of the few textbooks he mentioned by name, only one was authored (actually, co-authored) by a woman, Lyne Hoffman. Throughout his article, Warren focused on the content, assumed reader, and the backgrounds of the authors.

In an article about Sada Harbarger, Kynell (1996) discussed Harbarger's *English for Engineers* and its role in the history of technical writing instruction. In a later book-length study about the teaching of technical writing, Kynell (1999) did not discuss any additional women authors of technical writing textbooks.

McKenna and Thomas (1997) examined five textbooks published from 1995 to 1997, focusing on their style, organization, content, and writing theory. They completed full analyses of the textbooks, three of which were authored or co-authored by women, but these women-authored textbooks did not fall within the scope of my study.

In Chapter 4 of her book, Longo (2000) offered a discussion of the history of both learning and thinking in technical writing, focusing primarily on Thomas A. Rickard, author of a technical writing textbook. Longo only discusses four textbooks in her article, of which only one was co-authored by a woman: Leslie A. Olsen. I did not use Olsen's textbook in this study because it was first published in the 1990s.

The most influential article about the history of technical writing textbooks has been Connors' "The Rise of Technical Writing Instruction in America," first published in 1982 and then republished in 1999 and 2004. This article is widely regarded as a landmark essay or central work in the field of technical communication and serves as a primary source of information for students and teachers about the textbook tradition in technical writing. Yet Connors (1982) mentioned just two women-authored textbooks published before 1973: Harbarger's *English for Engineers* and Yule's *Preparation of Scientific and Technical Papers* (pp. 335-336). Of Harbarger, he wrote, "Sada Harbarger passed away in 1942 and was duly eulogized by the [SPEE's] English Committee over which she had tyrannized for so long" (p. 339). Connors (1982) mentioned just one

women-authored textbook published after 1973: Deborah Andrews and Peg Blickle's *Technical Writing* (1978) (p. 348).

There is an interesting difference between the 1982 (original) edition and the 2004 edition of Connors' article that is relevant to my research. Connors (1982) stated:

> Ralph Fitting's *Report Writing* of 1924 and the immensely popular and influential *Preparation of Scientific and Technical Papers*, written by Sam F. Trelease and Emma S. Yule in 1937, found immediate audiences in technical writing classrooms and their narrowly focused, formal approach was to influence a whole generations of technical writers. Texts following these two works treated many different sorts of reports—preliminary, investigative, field work, recommendation, etc. (p. 180)

Contrast the above passage with the following one from Connors (2004):

> Ralph Fitting's *Report Writing* of 1924 and the immensely popular and influential *Preparation of Scientific and Technical Papers* of Sam F. Trelease and Emma S. Yule (which lasted from 1925 to 1951) found immediate audiences in technical writing classrooms and their narrow-focus formal approach was to influence a whole generation of technical writers. Texts following Fitting and Trelease treated many different sorts of reports—preliminary, investigative, field work, recommendation, etc. (p. 326)

The passage "Texts following these two works" in the 1982 edition became "Texts following Fitting and Trelease" in the 2004 edition. The 2004 edition did not mention co-author Yule in the revised sentence.

I have chosen Connors' article as the catalyst for my research because it is regarded as an authoritative history of technical writing instruction, discussing technical writing textbooks from 1900 to 1980, among other topics. The article is indeed an important contribution to the scholarship on this subject, but it was never intended to be exhaustive or definitive. It mentioned only a few textbooks from the 1950s, 1960s, and 1970s, and only one of them was written by women.

## 1.2 METHODS

In this section, I explain how I selected the samples for analysis, how I gathered data, and how I coded some of the data.

**1.2.1 Selection of Samples.** In simple terms, a textbook contains specific information about a subject, and students use it in an academic setting to learn about that subject. At the university level, writing textbooks fall into three general categories: rhetorics (about the theory of writing), readers (examples of and for writing) and handbooks (guides to grammar, usage, documentation, etc.). I narrowed my selections to technical writing textbooks that were rhetorics, at least arguably so.

I used WorldCat to select the women-authored textbooks on the basis of the following criteria:

- Women-authored
- Concerned with technical writing theory
- Written between 1923 and 1973
- Published primarily in the United States

The following list identifies the women-authored textbooks I used in my study:

- Harbarger, S. A. (1923). *English for engineers*. New York: McGraw-Hill Book Company, Inc.
- Trelease, S. F. & Yule, E. S. (1925). *Preparation of scientific and technical papers.* Baltimore: Williams and Wilkins Company.
- Green, L. B., Nall, K. A., &Wellborn, G. P. (1957). *A Manual for technical writing*.
- Blickle, M. D., & Houp, K. W. (1958). *Reports for science and industry*. New York: Holt Rinehart, and Winston.
- Norgaard, M. (1959). *A technical writer's handbook for technicians, engineers, businessmen, and scientists*. New York: Harper
- Tichy, H. J. (1967). *Effective writing: For engineers, managers, scientists*. New York: John Wiley and Sons, Inc.
- Pickett, N. A., & Laster, A. A. (1970). *Writing and reading in technical English*. San Francisco: Canfield Press.

I selected the men-authored textbooks from among those cited in Connors' (1982) article. Connors (1982) singled out these technical writing textbooks, among others, to use as examples in his history of technical writing instruction. The following list identifies the men-authored textbooks I used in my study:

- Fitting, R. U. (1924). *Report writing*. New York: The Ronald Press Co.
- Earle, S. C. (1926). *The theory and practice of technical writing*. New York: The Macmillan Company.
- Mills, G. H., & Walter, J. A. (1954). *Technical writing*. New York: Rinehart and Company, Inc.

- Ulman, J., & Gould, J. (1959). *Technical reporting*. 2nd ed. New York: Holt

**1.2.2 Collection of Data.** After selecting the textbooks, I researched the backgrounds of the women and men authors. By researching their backgrounds, I was able to assemble a short biography of each author. I collected their personal information from the following sources: ancestry.com, personal interviews, previously published material, and records maintained by the colleges/universities for which they worked. Fortunately, I was able to find biographical entries about most of the authors in standard reference works. I also interviewed several collaborators and family members of the men and women authors. I conducted these interviews through email in December 2012 and February 2013.

To gain a better understanding of the women-authored and men-authored textbooks, I collected the following data about the textbooks:

- Number of editions
- Number of pages
- Presentation of author's name on the external textbook cover
- Intended audience
- Readability
- Subjects covered
- Number and types of visuals

Because most scholars who wrote about the history of technical writing textbooks did not explain why they selected certain textbooks over others, I hoped that a comparison of the women- and men-authored textbooks on the basis of the seven features listed above might shed some light on their selection criteria. I wondered whether the number of editions that a textbook went through or the length of a textbook (as measured by number of pages) might have influenced their selection. Could the author's choice of

audience, the textbook's readability level, the subjects covered by the textbook, and/or number and types of visuals have contributed in some way to the marginalization of the women-authored textbooks? I also questioned whether variations in the presentation of the authors' names on the covers of their textbooks might have made a difference. An author's first name (if it is spelled out) often reveals the author's sex.

To collect the data on the textbooks, I used the resources of the Missouri University of Science and Technology (Missouri S&T) library. To determine the number of editions of a textbook, I searched WorldCat. To obtain copies of particular editions, I used Merlin, Mobius, or interlibrary loan. I inspected each book to determine the number of pages, publication information, the intended audience, and the presentation of the author's name. I determined the intended audience by reading the author's preface, foreword, and/or introduction, noting the statements about audience.

To select samples from each texbook, I used an online research randomizer, randomizer.org. The randomizer selected 10 percent of the total number of pages per textbook; for example, if there were 240 pages, the randomizer returned 24 page numbers. I then selected the first complete paragraph on each randomly selected page in each textbook. I copied each paragraph into an online readability calculator, editcentral.com (Edit Central, 2012). To determine subjects covered and the number and types of visuals, I examined each book's table of contents and went through each chapter to see what was discussed within that chapter and what examples were given in the form of visuals.

**1.2.3 Coding of Data.** I used the five classical canons of rhetoric – invention, arrangement, style, memory, and delivery – to code the subjects covered in the textbooks.

Under invention, I placed such subjects as “Professional Prestige and English” (Harbarger, 1923), “A Selling Job” (Ulman & Gould, 1959), and “Reports and the Technical Writer" (Blickle & Houp, 1958); under arrangement, such subjects as “The Essentials of Logical Structure” (Earle, 1926), “Easy Outlining” (Tichy, 1966), and “Outlines for Various Compositions" (Trelease & Yule, 1925); under style, discussions of grammar, punctuation, “Style and Diction” (Tichy, 1966), etc.; and under delivery, discussions of “Oral Reports and Speaking in Public,” “Visual Presentations of Information” (Ulman & Gould, 1959), and the like. There were no subjects in the surveyed textbooks that fit into the memory category. In that category, I would have classified discussions of tips and/or tools for memorizing a text for presentation.

In addition, I used the rhetorical canons to code the visuals. Some of the visuals were information organized in bulleted lists, tables, or charts. Tebeaux (1997) stated that visuals in the field of technical writing are “functional rather than ornamentation, communicative rather than impressionistic” (p.175). Examples of visuals include:

- "Types of Technical Writing” (Norgaard, 1959, pp. 155-156) — a list of 13 main types of technical writing, with subcategories
- "Letters” (Blickle & Houp, 1958, pp. 94-101) — examples of letters in different formats
- "Period Reports” (Fitting, 1924, p. 19) — a sample report titled “Income account”

To code the visuals within the textbooks, I used the rhetorical canons of style and arrangement as categories. Under arrangement, I placed such visuals as “Types of Technical Writing” (Norgaard, 1959) and “Letters” (Blickle & Houp, 1958); under style, such visuals as “Tautology” (Tichy, 1966) and “Experiment Station Bulletins” (Trelease & Yule, 1925).

## 1.3 ORGANIZATION OF THE THESIS

I have organized my thesis into three additional sections. In Section 2, I present the results of my investigation into the backgrounds of the authors and the features of their textbooks. In Section 3, I compare the women and men authors in terms of their qualifications and their textbooks in terms of their features. Finally, in Section 4, I discuss the implications and limitations of my study.

# 2. RESULTS

This section includes the information I collected about the backgrounds of the authors and the features of their textbooks. I did archival research to understand the lives of the women and men authors, and I used several metrics (e.g. determining the readability and coding the subject matter) to conduct a comparative analysis of the qualifications of the authors and the features of the technical writing textbooks. I present the results of my investigation in Section 3.0 and discuss those results in Section 4.0.

## 2.1 BACKGROUNDS OF AUTHORS

In this section, I present the backgrounds of the women who wrote technical writing textbooks that were published before 1973, as well as the men authors I used for comparison. I organized Section 2.1.1 Women Authors and Section 2.1.3 Men Authors chronologically according to the publication date of the particular edition of each textbook I analyzed.

**2.1.1 Women Authors**. Section 2.1.1 includes background information about the following women authors:

- Sada Annis Harbarger (1884-1942)
- Emma Sarepta Yule (1863-1939)
- Lola Beth Green (1907-1992)
- Grace Pleasant Wellborn (1906-1971)
- Margaret Darice Blickle (1907-1993)
- Margaret Lima Norgaard (1898-1990)
- Henrietta Justine Tichy (1912-1994)
- Nell Ann Pickett (b. 1935)

- Ann (Appleton) Laster (b. 1936)

**2.1.1.1 Sada Annis Harbarger**. Sada Annis Harbarger was born on August 13, 1884, in Columbus, Ohio. She may not have married nor had any children (Lindy Smith, personal communication, 15 December 2012). In 1906, Harbarger graduated from Ohio State University with a Bachelor of Arts in Art, Philosophy, and Science (Lindy Stahnke, Personal Communication, 18 December 2012; Lindy Smith, personal communication, 6 December 2012). In addition, she earned a Master of Arts in English from the University of Illinois in 1909 (Alumni and Faculty, 2013; Lindy Stahnke, personal communication, 18 December 2012).

After graduation, Harbarger taught in the English department at the University of Illinois from 1909 to 1917, and in 1919, she began her long affiliation with the Department of English at Ohio State University (OSU) (Lindy Smith, personal communication, 6 December 2012). Harbarger became a member of the advisory board of the *Ohio State Engineer* in 1923 and served in that capacity for the next fifteen years. (Harbarger, 1923). She was promoted to associate professor in 1929 and full professor in 1936.

While at OSU, Harbarger wrote and published *English for Engineers* (1923), a technical writing textbook. She also co-authored *English for Students in Applied Sciences* (1938) with Wilson Dumble, William Hildreth, and Bert Emsley. I did not analyze *English for Students in Applied Sciences* because I limited my study to one textbook by each author, and *English for Engineers* is commonly mentioned in the published histories of technical writing textbooks.

Harbarger retired from OSU in 1938 and passed away on April 23, 1942 (Ohio State Engineer, 1938; Ohio Deaths, 2010). On June 20, 1949, OSU established a

memorial scholarship in Harbarger's name. This scholarship was designed to help an "outstanding" student enrolled in OSU's College of Engineering each year. The current market value of the scholarship fund is $14, 932 (Office of Financial Aid, 2012). Today Harbarger is remembered as a technical writing teacher—one who should be remembered for her contributions to the field of technical writing (Kynell. 1999).

**2.1.1.2 Emma Sarepta Yule**. Emma Sarepta Yule (see Figure 2.1) was born on March 25, 1863, in Red Oak Township, Iowa. Her birth was saddened by the death of her mother just four days later (Yule, 1975). She may not have had any children or married.

Figure 2.1: Emma Yule Photograph in Everett Public Library (O'Donnell, 2008).

After earning a Bachelor of Didactics from Iowa State Teachers College, Yule began working at the first school house in Everett, Washington; on December 14, 1891 (Lawrence, 1929, p. 1148). She later became the first school principal in the Everett School District on February 19, 1892. While working in Everett, Yule was demoted three times before she left in 1902. The demotions were rumored to be because of her sex (O'Donnell, 2008; Yule, 1975). She then taught in the public school system of Juneau, Alaska, and later in Japan and the Philippines (O'Donnell, 2008; Yule, 1975).

From 1915 to 1936, Yule was the head of the English department in the College of Agriculture at the University of Philippine Islands in Los Banon (Yule, 1975). During

this period, she collaborated with Samuel Trelease, a colleague at the same university, on a book titled *The Preparation of Theses and Other Manuscripts* (1919). Yule also served as the assistant editor of the *Philippine Agriculturist* from 1919 to 1925 and the editor from 1925 to 1936 (Ulchanco, 2011). As editor, she took steps towards teaching technical writing. She introduced the skill set of organizing documents, arranging content appropriately, and using color properly to the staff at the *Philippine Agriculturist* (Uichanco, 2011). In 1925, she co-authored a second book with Trelease: a technical writing textbook titled *Preparation of Scientific and Technical Papers*, a technical writing textbook.

In addition to the two books she co-authored with Trelease, Yule authored the following books:

- *China Joe* (1910)
- *An Introduction to the Study of Colonial History, for Use in Secondary Schools* (1912)
- *Stories from Japanese History for Boys and Girls* (1926)
- *In Kimono Land* (1927)
- *In Japan: Without a Clock or Calendar* (1935)

In 1936, Yule retired to Los Angeles, California, where she died on April 16, 1939 (O'Donnell, 2008). Upon her death, she donated her estate—equaling $20,429.31—to Washington University (Billingsley, 1944). She asked that the funds be used to aid partially or fully self-supporting women students at the University of Washington. The current market value of the estate is $162,676.83, $6,400 provided per year (University of Washington Giving, 2012; O'Donnell, 2008). In addition, the Everett Public Schools Foundation established the Emma Yule Society in 1992, to allow businesses and individuals to invest in the children of the school district (Kristie Dutton, personal

communication, 13 December 2012). The funds are used for classroom grants and other tools for the educational growth of the students. $277,000 was raised for the 2012-2013 school year (Kristie Dutton, personal communication, 13 December 2012).

**2.1.1.3 Lola Beth Green**. Lola Beth Green was born on November 8, 1907, in Brownwood, Texas (Social Security, 2011a). She attended public school in Arkansas ("Green," 1973). She may not have married nor had any children.

Green received a Bachelor of Arts in 1935 and a Master of Arts in 1942 from Texas Technical College. After graduation, from 1946 through 1954, she worked as an English instructor at Texas Technical College and spent 1951 through 1955 completing her Ph.D. (Marquis, 1964). In 1957, Green and two colleagues, Kline Nall and Grace Pleasant Wellborn, wrote and privately published a textbook titled *A Manual for Technical Writers*. They later revised and enlarged the textbook and published it under the title *Technical Writing* (1961).

Around 1970, Green took action against Texas Technical University, alleging that she was denied a promotion to full professor in 1969 because of her gender (Leagle, 2010). However, the court was not convinced that her sex played a role in the denial, stating that she was turned down for promotion because of the quality of her teaching and research (Lola Beth Green v. Board of Regents of Texas Tech University, 1973). In 1970, Green co-authored *Bold Land: A Bibliography* with Dahlia Terrell.

Green spent her life residing in Texas and died there on July 12, 1992 (Social Security, 2011a).

**2.1.1.4 Grace Pleasant Wellborn.** Grace Pleasant was born on May 10, 1906, in Chico, Texas, and married Don A. Wellborn on September 17, 1933 (Marquis, 1966-

1967). She earned a Bachelor of Arts of English with a minor in Education in 1928 and a Master of Arts of English in 1933, both from Hardin-Simmons University in Abilene, Texas (Tammi Outlaw, personal communication, 5 December 2012). While working on the master's degree, she managed the university's book store and taught English during her final year. From 1934 to 1939, she served as Registrar of Howard Payne College in Brownville, Texas, later worked as an English instructor (1940-1943), and headed the Speech department (1944-1946) (Marquis, 1966-1967).

From 1947 until her retirement in the 1960s, Wellborn taught English at Texas Technical College (Maruis, 1966-1967). During this period, she completed postgraduate courses from Baylor University, Texas Technical College, and Colorado State University. In 1957, she collaborated with Kline Nall and Lola Beth Green on a textbook titled *A Manual for Technical Writers*, which was locally published. Although she had been the third author on the 1957 (first) edition, she was first author on the second (enlarged) edition titled *Technical Writing* (1961). In addition to her textbooks, she wrote several journal articles, including “Is the Technical Student Short-Changed in College" (1960) and “The Symbolic Three in 'The Scarlet Letter'” (1963), and a book titled *Devotionals on the Trees of the Bible (1967).* Wellborn passed away in Chico, Texas, on July 17, 1971 (Social Security, 2011b).

**2.1.1.5 Margaret Darice Blickle**. Margaret Darice Masrshman was born on January 14, 1907, in Tiffin, Ohio. She earned a Bachelor of Arts in Speech and Drama from Ohio Wesleyan University in 1929 and worked as a puppeteer for about fifteen years, marrying Joseph Blickle in 1935 (Lindy Smith, personal communication, 6 December 2012).

Blickle began her career in academia as a part-time instructor (1944-1947) of speech and English at Ohio State University (OSU) and later increased to full-time (1947-1953). OSU promoted her to Assistant Professor of English in 1953 and Associate Professor in 1955. She remained at this rank until her retirement in 1975.

While working at OSU, Blickle collaborated with both Kenneth Houp and Martha Passe. Blickle and Houp co-authored *Reports for Science and Industry* in 1958. Blickle was the lead author of this technical writing textbook (Deborah Andrews, personal communication, 17 December 2012). With Passe, Blickle co-authored *Readings for Technical Writers* (1961), a collection of essays and articles.

After her retirement, Blickle co-authored another textbook, *Technical Writing: Principles and Forms* (1978), with Deborah Andrews. As Andrews recalled, "When she suggested that we collaborate on a text, I felt honored; I knew I could learn from her and would enjoy the collaboration" (Deborah Andrews, personal communication, 17 December 2012). Andrews was proud of their textbooks because "it was grounded deeply in the real world of engineering, environmental, and scientific practice. The principles and forms we applied to that reflected her long engagement with teaching technical writing and my more recent experience with rhetorical theories" (Deborah Andrews, personal communication, 17 December 2012).

Blickle died on August 27, 1993, in Columbus, Ohio. She was 86 (Social Security, 2011f). Andrews remembered her as being "smart, sassy, dedicated, and generous" (Deborah Andrews, personal communication, 17 December 2012). After Blickle's death, Ohio State University established an endowment totaling $101, 928 in Blickle's honor, and it became available on September 5, 1997 (Ohio State University,

1997). This endowment was established to fund the research-related travel of graduate students in English at OSU (Ohio State University, 1997).

**2.1.1.6 Margaret Lima Norgaard**. Ida Ma(r)y Margaret Lima (see Figure 2.2) was born on April 6, 1898, in Lynn, Massachusetts (Social Security, 2011e). She began her college education at Cornell University but transferred to Stanford University in the early 1920s. She received a Bachelor of Arts in Education in 1922 and a Master of Arts in Psychology in 1923. With Lewis Terman, Lima published *Children's Reading: A Guide for Parents and Teachers* (1925).

Figure 2.2: Margaret Lima (1923)
Photograph from Stanford University Yearbook .

On June 24, 1928, she married Ralph L. Norgaard (Stanford, 1932). The couple had at least two children, Richard in 1930 and Nancy in 1934 (United States, 2012).

For many years, Norgaard worked as an English instructor at the University of Minnesota (Board of Regents, 1935; Board of Regents, 1947; Board of Regents, 1965; Board of Regents, 1966). In later years, she maintained a successful career in the technical writing field, working as an editor of manuals and reports for Remington Rand-Univac and writing *A Technical Writer's Handbook for Technicians, Engineers, Educators, Businessmen, and Scientists* (1959) (Cohen, 1969).

Norgaard lived 92 years before passing away on March 13, 1990, in Hennepin County, Minnesota (Minnesota Death, 2001; Stanford, 1990). Even though she began her

career writing about children's literature, at the end of her career she was considered an authority on the subject of technical writing.

#### 2.1.1.7 Henrietta Justine Tichy.

Figure 2.3: Henrietta J. Tichy Photograph from STC archives, STC headquarters, Fairfax, VA.

Henrietta J. Tichy (see Figure 2.3) was born on March 24, 1912, in New York, New York, and passed away in Florida on July 18, 1994 (Social Security, 2011c). She may not have married nor had any children.

Tichy received a Bachelor of Arts from Hunter College in 1932 and a Master of Arts in English from Columbia University in 1934 (Bill Santin, personal communication, 17 December 2012). While working on her Ph. D. (completed in 1942) at New York University, she taught English at Hunter College. She continued working at Hunter College until 1968, advancing in rank and prestige. Later, Tichy worked as a Professor of English at Lehman College from 1968 until her retirement in 1975 (Press, 1974).

Tichy authored the following books:

- *Engineers Can Write Better* (1950)
- *Biblical Influences in English Literature, A Survey of Studies* (1953)
- *Effective Writing for Engineers, Managers, Scientists* (1966; 2nd ed., 1988, with Sylvia Fourdrinier)

One of her most significant accomplishments was being named in 1968 as the first woman fellow of the Society of Technical Writers and Publishers (STWP), now

known as the Society for Technical Communication ("Election," 1968; Janet Munch, personal communication, 12 December 2012).

**2.1.1.8 Nell Ann Pickett.** Nell Ann Pickett was born on October 22, 1935, in Utica, Mississippi (US Public, 2011b). When she was 40 years old, in 1976, she married Harry J. Partin (King, 2009). Pickett lived a demanding life, investing in her personal education and teaching; however, she and Partin did travel, something they considered a hobby (Marquis, 1986-1987; King, 2009).

Pickett, at a young age, knew she wanted to teach English. To begin her education, she selected Mississippi University for Women (MUW), because of their reputation, and the tuition was financially reasonable for her (King, 2009). She graduated from MUW with a Bachelor of Arts in 1957 and immediately continued at Peabody College, earning a Master of Arts in 1958 (Marquis, 1986-1987). My sources did not indicate her major.

Pickett was chairman of the English department at Rolling Fork High School in Mississippi from 1958 to 1961; an English instructor at Delta State University in Cleveland, Mississippi, from 1962 through 1965; and a sociology instructor at Mississippi University in 1965-1966 (Marquis, 1986-1987). In 1966, she began a long career as an English professor at Hinds Junior College in Raymond, Mississippi. Pickett earned a doctorate from the University of Mississippi in 1977 (Marquis, 1986-1987).

A prolific scholar, Pickett co-authored the following books with Ann Laster:

- *Writing and Reading in Technical English* (1970)
- *Technical English* (1975)
- *Handbook for Student Writing* (1972)
- *Occupational English* (1974)

She was the sole author of the following book:

- *Practical Communication* (1975)

Picket was one of the founders of the Association of Teachers of Technical Writing (ATTW) in the early 1970s and was an active member of the Southeastern Conference of the National Two-Year College English Association (TYCA) (Cunningham, 2004). Because of her efforts, TYCA- Southeast continues to honor Pickett by awarding teachers the Nell Ann Pickett Teaching Award (Nell Ann, 2012). In addition, ATTW established the Nell Ann Pickett Award for the best journal article published in ATTW's *Technical Communication Quarterly* (The Nell Ann, 2011). In 1985, Pickett received TYCA's Cowan Excellence in Teaching Award (Marquis, 1986-1987).

**2.1.1.9 Ann (Appleton) Laster.** Agatha Ann Appleton was born on August 10, 1936, in Water Valley, Mississippi (Evory, 1978). On June 11, 1961, she married Bob Lee Laster. On September 17, 1969, their daughter, Ann Lee, was born (US Public, 2010a).

Laster earned a Bachelor of Arts from Mississippi College in 1957 and a Master of Arts in 1966 from the University of Mississippi. From 1957 to 1964, she taught at the high school level. She was the English teacher and librarian at Flora High School in Flora, Mississippi; an English and Latin teacher at West Point High School in West Point, Mississippi; and an English teacher in Clarksdale, Mississippi. In 1964, she began her long career as an English teacher at Hinds Junior College in Raymond, Mississippi (Evory, 1978).

Laster co-authored the following books with Nell Ann Pickett:

- *Writing and Reading in Technical English* (1970)

- *Handbook for Student Writing* (1972)
- *Writing for Occupational Education* (1974)
- *Technical English* (1975)

Katherine Staples (personal communication, 17 December 2012), who collaborated with Laster and Nell Ann Pickett on the 2001 edition of *Technical English*, stated, "[Laster was] A splendid teacher and active as a consultant. She possessed authorial wisdom and editorial expertise." Staples added that Laster:

> was (and remains) a brilliant teacher, a thoughtful practitioner, an insightful reader and researcher, and a dear and loyal friend. She guided and directed our work. I was a presenter at the Mississippi group (which Ann Laster headed up in Raymond) for technical communication teachers). Thanks to Ann, it was a fine program (as it had been for many years), involving outstanding teachers and scholars in the field. As always, Ann's eye for detail and unsparing work made the event valuable and delightful for all of us who took part and who attended.

**2.1.2 Men Authors.** Section 2.1.2 includes information about the following men authors:

- Ralph Ulf Fitting (1880-1963)
- Samuel Chandler Earle (1870-1917)
- John Arnold Walter (1914-2001)
- Gordon Harrison Mills (1914-1978)
- Joseph Nathan Ulman (1908-1993)
- Clarence (Jay) Reid Gould (1906-1999)

**2.1.2.1 Ralph Ulf Fitting.** Ralph Fitting was born on June 25, 1880, in Grand Rapids, Michigan (Who's Who, 1922-1923). He married Frances Dancy in 1910 and had

at least three children: Ralph Jr., Frances Holly, and Robert Danacy (Who's Who, 1922-1923).

Fitting earned a Bachelor of Arts in Electrical Engineering from Stanford University in 1906 (Stanford Traditions, 1948; Who's Who, 1922-1923). While earning his degree, he worked at Draftsman Northern Pacific Railroad (Who's Who, 1922-1923). After graduation, he held a succession of jobs in industry: Superintendent of Distribution in Portland, Oregon, from 1907 to 1908; Assistant Chief Engineer at Electric Bond and Share Company from 1908 to 1913; Engineer at Harris Forbes and Company from 1913 to 1914; and Engineer at Parson, Klapp, Brinckerholf, and Douglas in New York from 1914 to 1923 (Who's Who, 1922-1923). On the basis of this work experience, he wrote and published *Report Writing* in 1924.

Fitting passed away in Los Angeles, California on February 16, 1963 (Who's Who, 1922-1923).

**2.1.2.2 Samuel Chandler Earle.** Samuel Chandler Earle was born on July 7, 1870, in Brattleboro, Vermont ("Samuel," 1917). He may not have married nor had any children.

Earle received a Bachelor of Arts in 1894, a Master of Arts in 1895, and a doctoral degree in 1896, all from Harvard University (Kynell, 1995; "Samuel," 1917; The "The Jumbo", 1917). My sources did not say what he majored in while earning his degrees. At Tufts University, he was Assistant in English Literature from 1895 to 1902, Instructor of English and Modern Languages from 1896 to 1902, and Instructor of French during 1896 ("The Book," 1857-1941; "The Jumbo", 1917). He was promoted to

Assistant Professor of English in 1902 and Professor of English in 1906 (The Book, 1857-1941).

With Howard Savage and Frank Seavy, Earle wrote and published a grammar textbook titled *Sentences and Their Elements* (1911); however, he is chiefly remembered today for a technical writing textbook titled *The Theory and Practice of Technical Writing* (1911), of which he was the sole author. Due to his work, Connors (1982) refers to Earle as the "father of technical writing instruction" (p. 333; Kynell, 1995)

Earle passed away on July 20, 1917, before he was able to retire. He was known for being "a sympathetic and painstaking teacher; an inspiring and loyal friend to his associates; an organizer of unusual ability; a seer of educational vision" ("Samuel," 1917, p. 247).

**2.1.2.3 Gordon Harrison Mills.** Gordon Harrison Mills was born on February 4, 1914 (Social Security, 2011d). He married Violet and had at least one child, David Mills (Cline, Sutherland, and Walter, 1978).

Mills attended State University of Iowa, earning a Bachelor of Science in History in 1939, a Master of Arts in 1940, and a Ph.D. in 1942 (Cline, Sutherland, and Walter, 1978). In addition to his formal education, Mills taught himself physics, and this self-acquired knowledge allowed him to obtain a position as a research assistant in a top-secret government project on the State University of Iowa campus (Cline, Sutherland, and Walter, 1978). In 1945, Mills started his long career at the University of Texas as an Instructor of English (Cline, Sutherland, and Walter, 1978). A year later, in Spring 1946, he met John Walter and began collaborating with him on a technical writing textbook. As Walter (1979) recalled:

> We began our work together out of a sense of dissatisfaction with existing texts in the field and out of conviction that to teach the subject of technical writing we should have a close and comprehensive knowledge of the kinds of writing actually done by engineers and scientists on the job. To that end, we invited nearly three hundred companies to send us visuals of the kinds of documents actually written on the joy by their engineers and technical staff employees. The response to our request was most generous, and we studied the documents we received as carefully as we could over the next few years, sandwiching the work in between our teaching duties. We then pooled the results of our study and planned the first edition of our book .... (p. 82)

*Technical Writing* (1954) was considered to be "the most widely used textbook in its field" (Cline, Sutherland, and Walter, 1978, p. 2).

In 1962, Mills was promoted to Associate Chairman of the English Department, and he held that position until 1964 (Cline, Sutherland, and Walter, 1978). Late in life, he published a second book, *Hamlet's Castle* (1976). He was working at the University of Texas when he suffered a heart attack and died on September 11, 1978 (Cline, Sutherland, and Walter, 1978).

**2.1.2.4 John Arnold Walter.** John A. Walter (see Figure 2.4) was born on March 7, 1914, in Oklahoma; he married at least once and had at least four children (Social Security, 2011g; Garrison et al., 2012; Press, 1982).

Figure 2.4: John Walter Photograph of John Walter c. 1955, from *TWE Journal*,

Walter earned a Bachelor of Arts in English from Texas Technical University in 1935 and a Master of Arts in

English in 1937 (Garrison et al., 2012). He then worked as an Instructor of English at Texas Tech from 1937 through 1942 (Garrison et al., 2012). In 1942, he moved to the English department at University of Texas - Austin (Garrison et al., 2012). After serving in the Navy during World War II, he returned to teaching at the University of Texas - Austin and co-authored a textbook titled *Technical Writing* (1954) with Gordon Mills. He later served as Associate Chair of the English department from 1964 to 1979 (Garrison et al., 2012).

Walter was one of the founders of the Association of Teachers of Technical Writing (ATTW) and served as ATTW's national secretary, treasurer, and eventually president (Kynell & Tebeaux, 2009). He was also a fellow of the Society for Technical Communication (Kynell & Tebeaux, 2009).

After his retirement from teaching in 1986, Walter lived in Switzerland with his wife, but later moved back to Texas (FRS, 1990). He passed away in Austin, Texas, on October 19, 2001 (Social Security, 2011g).

**2.1.2.5 Joseph Nathan Ulman, Jr.** Joseph N. Ulman, Jr., (see Figure 2.5) was born on May 10, 1908, in Baltimore, Maryland (Connecticut Department, 2003). Ulman married Marjorie Weil, also known as Marjo, on June 4, 1927, and had at least two children (Connecticut Department, 2003; neddana1949, personal communication, 9 February 2013).

Figure 2.5: Joseph Ulman Photograph from Consumer Reports, courtesy of his daughter

During the 1920s, Ulman attended Johns Hopkins University, from which he graduated with a

bachelor's degree in philosophy in 1928 (Alumni, 2003; Barbara Ulman, personal communication, 23 February 2013). He continued his education at Johns Hopkins, attending the Whiting School of Engineering, where he earned a second bachelor's degree in automotive engineering in 1934 (Alumni, 2003; Barbara Ulman, personal communication, 23 February 2013).

Ulman then went to work for General Motors as the test engineer on their proving ground (Barbara Ulman, personal communication, 23 February 2013). This position required him to conduct tests on vehicles during WWII and write reports (Barbara Ulman, Personal Communication, 23 February 2013). While working at General Motors, he was recruited by Massachusetts Institute of Technology to teach in the English Department (Barbara Ulman, personal communication, 23 February 2013; Ramsey, 1990, p.22).

While teaching at MIT, Ulman wrote reports for Project Whirlwind, a secret project to build a high speed digital computer (MITRE, 2013; Barbara Ulman, Personal Communication, 23 February 2013). He also wrote his first book, *Technical Reporting* (1952), because "he couldn't find a text book that covered what he thought was needed" (Barbara Ulman, personal communication, 23 February 2013). Although Ulman was the sole author of the first edition, he collaborated with Jay R. Gould on the second edition (1959). Ulman eventually left MIT because "he was discouraged by the students' lack of interest in his course. They didn't want to take it" (Barbara Ulman, personal communication, 23 February 2013).

After he left MIT, Ulman worked at Consumer Reports as the head of their automotive department, a job which included generating the test for the vehicles and

analyzing the results (Barbara Ulman, Personal Communication, 23 February 2013). He left Consumer Reports for Arthur D. Little, Inc., a publishing company, and worked there as an editor from March 1965 until February 1968. He was laid off and took a position with the *Unitarian Register*, creating and editing this monthly magazine (Wright, 1997; Barbara Ulman, Personal Communication, 23 February 2013). After three years, Ulman returned to Consumers Reports, working in the safety department and writing automobile safety manuals until his retirement (Barbara Ulman, personal communication, 23 February 2013).

Ulman passed away in Bethany, Connecticut, of heart ailments on March 14, 1993, and his wife passed away nine days after his death (Barbara Ulman, personal communication, 23 February 2013; Connecticut Department, 2003).

**2.1.2.6 Clarence (Jay) Reid Gould.** Clarence Reid Gould (see Figure 2.6) was born on March 15, 1906, in Aylesford, Nova Scotia (Ramsey, 1990; Gould 1989). Gould changed his name to Jay in 1939, when he became a U.S. citizen, after using the name Jay for nearly a decade (Ramsey, 1990). He married Rebecca on December 11, 1941, and had at least two children, Lee Potter and Emilie West ("Jay Reid Gould," 1999).

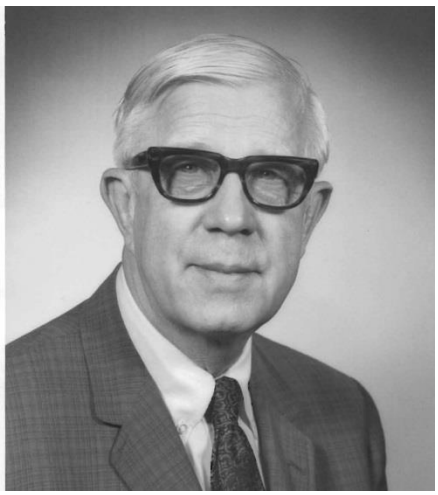

Figure 2.6 : Jay Gould
Photograph from STC archives, STC headquarters, Fairfax, VA

Gould completed a Bachelor of Arts in English and minors in chemistry and mathematics at Acadia University in 1926 and graduated from Harvard University with a Master of Arts in English in 1929 (Ramsey, 1990). After receiving a master's degree, he taught at

Rensselaer Polytechnic Institute (RPI) while working on his Ph.D. at Columbia, but he never completed the Ph.D. because of his commitment to teaching at RPI (Ramsey, 1990).

While at RPI, Gould established the first master's degree program and doctoral degree program in technical communication ("Editorial," 1990; Gould, 1989). He later went on to be the chair of RPI's Department of Language, Literature, and Communication (Ramsey, 1990). In addition, he was the founding editor of the *Journal of Technical Writing and Communication* in 1971 (Gould, 1989).

Gould co-authored the following textbooks:

- *Exposition, Technical, and Popular*, with Sterling P. Olmsted (1947)
- *Technical Reporting*, 2nd ed., with Joseph N. Ulman (1959; 3rd. ed., 1972)

Moreover, he authored the following books:

- *Opportunities in Technical Communication* (1964)
- *Directions in Technical Writing and Communication* (1978)

After his retirement from RPI in 1972, Gould and his wife spent much of their time traveling abroad until he passed away in 1999 ("Jay Reid Gould", 1999.; Editorial, 1990).

**2.1.3 Qualifications of the Authors.** I compared the women and men authors in terms of their qualifications for writing a technical writing textbook. An author's qualifications included education and/or work history prior to the publication of the textbook. The tables below (2.1 and 2.2) summarize the education, industry experience, and experience in academia of the fifteen authors I investigated.

The following, Table 2.1, presents the qualifications of the women authors.

Table 2.1: Qualifications of the Women Authors

| | Harbarger | Yule | Green | Wellborn | Blickle | Norgaard | Tichy | Pickett | Laster |
|---|---|---|---|---|---|---|---|---|---|
| Bachelor of Arts | X | | X | X | X | X | X | X | X |
| Bachelor of Didactics | | X | | | | | | | |
| Master of Arts | X | | X | X | | X | X | X | X |
| PhD | | | X | X | | | X | X | |
| 5 to 10 years in academia | X | X | X | X | X | X | X | X | X |
| 10 to 15 years in academia | X | X | X | X | X | X | X | X | X |
| Five years in industry | | | | | | | | | |
| 15 years plus in industry | | | | | | | | | |
| 15 years plus in academia | | X | | X | | X | X | X | |

The following, Table 2.2, presents the qualifications of the men authors.

Table 2.2: Qualifications of the Men Authors

| | Fitting | Earle | Mills | Walter | Ulman | Gould |
|---|---|---|---|---|---|---|
| Bachelor of Arts | X | X | | X | X | X |
| Bachelor of Science | | | X | | | |
| Master of Arts | | X | X | X | X | X |
| PhD | | | X | | | |
| Five to 10 years in academia | | X | X | X | | X |
| 10 to 15 years in academia | | X | | X | | X |
| Five years in industry | | | | | | |
| 15 years plus in industry | X | | | | X | |
| 15 years plus in academia | | X | | X | | X |

## 2.2 FEATURES OF TEXTBOOKS

In Sections 2.2.1 to 2.2.7, I present the results of my investigation of the following features of the women- and men-authored textbooks:

- Number of Editions
- Number of Pages

- Presentation of Author's Name
- Intended Audience
- Readability
- Subjects Covered
- Number and Types of Visuals

**2.2.1 Number of Editions.** In Tables 2.3 and 2.4, I present the number of editions of each textbook I analyzed and the year of publication of each edition. The publication year of the edition I analyzed appears in bold.

Table 2.3: Number of Editions of the Women-Authored Textbooks

| Author | Textbook | Eds. | Edition Years |
|---|---|---|---|
| Harbarger | *English for Engineers* | 4 | **1923**, '28, '34, and '43 |
| Trelease and Yule | *Preparation of Scientific and Technical Reports* | 6 | **1925**, '27, '36, '47, '51,'58 |
| Green, Nall, and Wellborn | *A Manual for Technical Writers* | 2 | **1957** and '61 |
| Blickle and Houp | *Reports for Science and Industry* | 2 | **1958** and '61 |
| Norgaard | *A Technical Writer's Handbook ...* | 1 | **1959** |
| Tichy | *Effective Writing* | 2 | **1966** and '88 |
| Pickett and Laster | *Writing and Reading in Technical English* | 11 | **1970**, '74, '75, '80, '84, '88, '93, '96, '98, '01, and '06. |

Table 2.4: Number of Editions of the Men-Authored Textbooks

| Author | Textbook | Eds. | Edition Years |
|---|---|---|---|
| Fitting | *Report Writing* | 1 | **1924** |
| Earle | *The Theory and Practice of Technical Writing* | 2 | 1911 and **'26** |
| Mills and Walter | *Technical Writing* | **5** | **1954,** '70, '78, '86, and '90 |
| Ulman and Gould | *Technical Reporting* | 3 | 1952, **'59**, and **'**73 |

**2.2.2 Number of Pages.** Tables 2.5 and 2.6 show the number of pages in each textbook, not including the indexes. The number of pages represents the size of the textbooks.

Table 2.5: Number of Pages in the Women-Authored Textbooks

| Author | Number of pages in each textbook, excluding the index |
|---|---|
| Harbarger | 257 |
| Trelease and Yule | 102 |
| Green, Nall, and Wellborn | 201 |
| Blickle and Houp | 310 |

Table 2.5: Number of Pages in the Women-Authored Textbooks (cont.)

| | |
|---|---|
| Norgaard | 155 |
| Tichy | 320 |
| Pickett and Laster | 422 (does not include "Selected Readings") |

Table 2.6: Number of Pages in the Men-Authored Textbooks

| Author | Number of pages in each textbook, excluding the index |
|---|---|
| Fitting | 95 |
| Earle | 295 |
| Mills and Walter | 310 |
| Ulman and Gould | 246 |

**2.2.3 Presentation of Author's Name.** The presentation of the author's name is important. When the first name is spelled out, it often reveals the sex of the author. However, some publishers conceal the first name to hide the sex of a woman author. Connors (2004), for example, made the following assumption: "The author was perhaps referred to in the book as S.A. Harbarger because the publisher felt that many readers might resent a woman claiming to be able to teach technical writing" (p. 335). In 1970, Nell Pickett and Ann Laster confronted their publisher about the presentation of their names in their textbook because the publisher only wanted to use their initials (Pickett, 1994). In addition, the publisher also planned for a well-known male author to write the

introduction, which resulted in this man's being regarded by some readers as a co-author of their textbook. Pickett and Laster protested and forced a reprinting of their textbook, which inevitably angered the publisher (King, 2009). Tables 2.7 and 2.8 , present the exact presentation of each author's name on the textbook's external textbook cover.

Table 2.7: Presentations of the Names of the Women Authors

| Presentation of Author's Name (Women) |
|---|
| S. A. Harbarger |
| Trelease and Yule |
| Green, Nall, Wellborn |
| Margaret D. Blickle and Kenneth W. Houp |
| Margaret Norgaard |
| H. J. Tichy |
| Pickett & Laster |

Table 2.8: Presentations of the Names of the Men Authors

| Presentation of Author's Name (Men) |
|---|
| Ralph U. Fitting |
| Samuel Chandler Earle |
| Gordon H. Mills and John A. Walter |
| Joseph N. Ulman Jr.  and Jay R. Gould |

**2.2.4 Intended Audience.** I used two methods to determine the intended audience of each textbook: statements made by the author(s) in the preface of each textbook and the Flesch Reading Ease Score. The Flesch score is ranked from 0 to 100: the lower the score, the harder the readability of the document. Flesch scores between 13 and 16 are college level, whereas a score from 60 to 70 is ideal for an adult with basic reading skills (Readability Scores, 2011; Edit Central, 2012). Tables 2.9 and 2.10 present the data I collected.

Table 2.9: Intended Audiences of the Women-Authored Textbooks

| | In text statement | Flesch Score |
|---|---|---|
| Harbarger | "The object of this textbook has been to make the study of English definite for the engineering student, and to stimulate his interest in a brief but comprehensive survey of the immediate uses to which English may be put by the engineer. It is intended to acquaint him with the sources of English study both for professional and cultural needs and interests" (p. vii). | 56.09 |
| Trelease and Yule | "This manual is intended for the use of students who are writing articles on scientific or technical subjects. It is designed primarily as a reference book for senior and graduate students who want information concerning matters of style to be followed in the preparation of papers" (p. 7). | 51.06 |

Table 2.9: Intended Audiences of the Women-Authored Textbooks (cont.)

| | | |
|---|---|---|
| Green, Nell, Wellborn | "This book was written out of a specific belief to fill a specific need. The belief is that students of technical writing want and can assimilate direct and practical instruction which will (a) give them an idea of what technical writing is all about; (b) convince them that, like chemistry, animal husbandry, or mathematics, it is a professional tool which they must master and use all their lives; and (c) give them a firm grasp of the underlying concepts, techniques, and forms of technical communication" (p. vii). | 53.93 |
| Blickle and Houp | "This book has been written for those who have had experience in compiling reports and for those who are dipping into the subject for the first time. Therefore the contents have been so arranged that the beginning writer can learn the fundamentals of report writing and the experienced writer can add to his knowledge and refine his skills" (p. iii). | 55.96 |
| Norgaard | Non given | 52.36 |
| Tichy | "Here it is, the book for those who want to write better, including the assistant who is coming next week, the engineer at Baton Rouge, and the professor of chemistry in Pomona" (p. v). | 49.51 |

Table 2.9: Intended Audiences of the Women-Authored Textbooks (cont.)

| | | |
|---|---|---|
| Pickett and Laster | "Thus, this book in basic technical writing is an attempt to help fill two very definite needs: The need of teachers in the two-year college, the community college, and the technical school to have student text material written on an appropriate level; and the need of technical students who out of necessity and interest require instruction in writing with utilitarian emphasis" (p. ix). | 61.62 |

Table 2.10: Intended Audiences of the Men-Authored Textbooks

| | In text statement | Flesch Score |
|---|---|---|
| Fitting | N/a | 43.45 |
| Earle | " For these reasons a study of some of the fundamental problems of technical writing is undertaken here in the hope of offering suggestions that will be helpful to any engineer in his writing" (p. vi). | 57.39 |
| Mills and Walter | "This book had its inception in our need for a logical bridge between the professional writing of scientists and engineers and the content of a course for students of technical writing" (p.v). | 60.75 |
| Ulman and Gould | "This book is addressed to students and practitioners of engineering and the sciences who have reached the point at which they have reporting jobs to do and have | 59.34 |

Table 2.10: Intended Audiences of the Men-Authored Textbooks (cont.)

| | | |
|---|---|---|
| Ulman and Gould (cont.) | something to say. This stage is attained by most technical students in their sophomore, junior, or senior year; by a very few in their freshman year; and by a considerable number not until they are in graduate school or in industry" (p. v). | 59.34 |

**2.2.5 Readability.** I used an online research randomizer, randomizer.org, to select the pages from which I would draw samples. The randomizer selected 10 percent from the total number of pages per textbook; for example, if there were 240 pages, the randomizer returned 24 page numbers. I then selected the first complete paragraph on each randomly selected page in each textbook. I copied each paragraph into an online readability calculator, editcentral.com (Edit Central, 2012). Shown in the following tables (2.11 and 2.12) are the averages of the sample paragraphs for each women- and men-authored textbook.

Table 2.11: Readability of Paragraphs from the Women-Authored Textbooks

| | Harbarger | Trelease and Yule | Green, Nell, and Wellborn | Blickle and Houp | Norgaard | Tichy | Pickett and Laster |
|---|---|---|---|---|---|---|---|
| Characters | 441.40 | 455.62 | 334.22 | 498.16 | 428.06 | 527.72 | 348.69 |
| Non-space character | 367.32 | 381.59 | 280.38 | 417.66 | 356.66 | 370.03 | 290.47 |
| Letters/ numbers | 358.76 | 370.93 | 274.61 | 407.36 | 346.53 | 359.69 | 281.50 |
| Words | 73.84 | 69.68 | 53.88 | 80.43 | 71.33 | 71.51 | 58.02 |
| Complex words | 12.12 | 11.56 | 9.11 | 13.43 | 10.73 | 12.12 | 8.75 |
| Syllables | 110.96 | 116.56 | 84.66 | 126.66 | 108.86 | 113.03 | 87.5 |
| Sentences | 3.92 | 4 | 2.94 | 4.23 | 3.26 | 3.87 | 3.30 |
| Chars per word | 4.9 | 5.15 | 5.13 | 5.05 | 4.91 | 5.05 | 4.82 |
| Syllables per word | 1.52 | 1.61 | 1.57 | 1.56 | 1.54 | 1.50 | 1.47 |
| Words per sentences | 23.66 | 19.38 | 19.62 | 18.60 | 23.16 | 17.71 | 19.97 |
| Samples | 25 | 10 | 18 | 31 | 15 | 32 | 36 |

Table 2.12: Readability of Paragraphs of the Men-Authored Textbooks

| | Earle | Fitting | Mills and Walter | Ulman and Gould |
|---|---|---|---|---|
| Characters | 565.56 | 458.33 | 436.81 | 268.54 |
| Non-space character | 477.21 | 383.44 | 362.62 | 224.87 |
| Letters/ numbers | 464.52 | 373.22 | 352.94 | 217. 87 |
| Words | 99.04 | 74.66 | 75.40 | 43.70 |
| Complex words | 14.04 | 14.88 | 10.56 | 7.12 |
| Syllables | 140.52 | 121 | 108.91 | 67.25 |
| Sentences | 4.04 | 4.55 | 3.75 | 2.79 |
| Chars per word | 4.69 | 4.96 | 4.77 | 4.99 |
| Syllables per word | 1.41 | 1.62 | 1.47 | 1.53 |
| Words per sentences | 29.04 | 25.7 | 21.24 | 17.46 |
| Samples | 23 | 9 | 37 | 24 |

**2.2.6 Subjects Covered.** I read through each textbook's table of contents and looked through the individual chapters to determine the subjects covered in the chapters. I then coded the chapter subjects according to the five canons of rhetoric. For examples of subjects that I placed in each category, see Section 1.2.2. Tables 2.13 and 2.14 present the number of chapters covering subjects in each of the five categories.

Table 2.13: Number of Subjects Covered by Type in the Women-Authored Textbooks

| Author | Invention | Style | Arrangement | Delivery |
|---|---|---|---|---|
| Harbarger | 19 | 0 | 7 | 0 |
| Trelease and Yule | 5 | 11 | 5 | 3 |
| Green, Nall, and Wellborn | 2 | 2 | 3 | 0 |
| Blickle and Houp | 2 | 1 | 7 | 1 |
| Norgaard | 3 | 6 | 2 | 0 |
| Tichy | 7 | 7 | 2 | 0 |
| Pickett and Laster | 7 | 0 | 2 | 0 |

Table 2.14: Number of Subjects Covered by Type in the Men-Authored Textbooks

| Author | Invention | Style | Arrangement | Delivery |
|---|---|---|---|---|
| Fitting | 4 | 0 | 3 | 0 |
| Earle | 6 | 0 | 6 | 0 |
| Mills and Walter | 12 | 2 | 6 | 2 |
| Ulman and Gould | 6 | 5 | 5 | 3 |

Tables 2.15 and 2.16 identify the specific chapters covering subjects in each category.

Table 2.15: Subjects Covered by Chapter in the Women-Authored Textbooks

| Author | Invention | Style | Arrangement | Delivery |
|---|---|---|---|---|
| Harbarger | 1, 2, 3, 4, 7, 8, 10, 11, 12, 13, 15, 17, 18, 19, 20, 21, 24, 25, 26 | | 5, 6, 9, 14, 16, 22, 23 | |
| Trelease and Yule | 1, 2, 18, 20, 23 | 5, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19 | 3, 4, 6, 21, 22 | 9, 16, 24 |
| Green, Nall, and Wellborn | | | | |
| Blickle and Houp | 1, 2 | 11 | 3, 5, 6, 7, 8, 9, 10 | 4 |
| Norgaard | 1, 2, 10 | 4, 5, 6, 7, 8, 9 | 3, 11 | |
| Tichy | 1, 2, 3, 4, 7, 8, 16 | 9, 10, 11, 12, 13, 14, 15 | 5, 6 | |
| Pickett and Laster | 1, 2, 3, 4, 5, 6, 9 | | 7, 8 | |

Table 2.16: Subjects Covered by Chapter in the Men-Authored Textbooks

| Author | Invention | Style | Arrangement | Delivery |
|---|---|---|---|---|
| Fitting | 1, 4, 5, 7 | | 2, 3, 6 | |
| Earle | 1, 7, 8, 9, 10, 12 | | 2, 3, 4, 5, 6, 11 | |
| Mills and Walter | 1, 2, 5, 6, 7, 8, 9, 11, 12, 14, 18, 21 | 3, 10 | 4, 13, 15, 17, 19, 22 | 16, 20 |
| Ulman and Gould | 1, 3, 4, 5, 6, 19 | 11, 13, 14, 15, 16 | 2, 7, 8, 9, 10 | 12, 17, 18 |

**2.2.7 Number and Types of Visuals.** I collected all of the in-text visuals from the textbooks. Visuals included such things as an outline of document sections, data presented in a chart, and a full example of a specific document. The author would use a visual to clarify a topic. The authors illustrated various topics throughout their textbooks, including report structure, tenses, and grammatical usage in forms of charts. For specific examples of the kinds of visuals in each category, refer to Section 1.2.2.

In the two tables below (2.17 through 2.18), I present the number of pages that contain visuals of each broad type.

Table 2.17: Number of Pages with Visuals in the Women-Authored Textbooks

| Author | Style | Arrangement | Visuals per Textbook |
|---|---|---|---|
| Harbarger | 0 | 16 | 16 |

Table 2.17: Number of Pages with Visuals in the Women-Authored Textbooks (cont.)

| | | | |
|---|---|---|---|
| Trelease and Yule | 30 | 27 | 57 |
| Green, Nall, and Wellborn | 7 | 75 | 82 |
| Blickle and Houp | 0 | 87 | 87 |
| Norgaard | 2 | 8 | 10 |
| Tichy | 31 | 5 | 36 |
| Pickett and Laster | 5 | 67 | 72 |

Table 2.18: Number of Pages with Visuals in the Men-Authored Textbooks

| Author | Style | Arrangement | Visuals per Textbook |
|---|---|---|---|
| Fitting | 0 | 23 | 23 |
| Earle | 4 | 40 | 44 |
| Mills and Walter | 18 | 32 | 50 |
| Ulman and Gould | 0 | 11 | 11 |

Tables 2.19 and 2.20 present the specific pages that include visuals in each category.

Table 2.19: Page Numbers of Visuals in the Women-Authored Textbooks

| Author | Style | Arrangement |
|---|---|---|
| Harbarger | | 77, 37, 40-41, 96-100, 136, 184, 199, 204-206, 210 |
| Trelease and Yule | 63-89, 92, 96-97 | 14-17, 26-27, 52-59 |
| Green, Nall, and Wellborn | 12, 86-87, 29-30, 34-35 | 88-90, 91-98, 214-217, 4-6, 11, 25-26, 93, 47-54, 61, 69-72, 77-78, 63-65, 80-81, 99, 102, 104-107, 135-143, 146-160 |
| Blickle and Houp | | 87-88, 12, 24-25, 41-51, 60-62, 94-120, 122-134, 138, 144-149, 156-159, 161, 172- 179, 185- 192 |
| Norgaard | 114-115 | 21-22, 25-26, 158-161 |
| Tichy | 103-105, 150-157, 170-173, 194-195, 157-163, 169, 173-174, 245- 246, 207-208 | 70, 72, 96-98 |
| Pickett and Laster | 39, 43, 45, 47, 51 | 134, 207, 210, 211, 12, 14-15, 24, 27, 49, 123, 159-161, 163-167, 169-172, 200-204, 216-217, 336-348, 370, 291-295, 296, 394-401, 380-385, 390-393 |

Table 2.20: Page Numbers of Visuals in the Men-Authored Textbooks

| Author | Style | Arrangement |
|---|---|---|
| Fitting | | 19, 63-64, 66-71, 71-73, 74-76, 78-85 |
| Earle | 198, 213, 215, 217 | 21-22, 57-61, 72-76, 85-92, 97, 100-108, 150-152, 158-161, 238, 72, 234 |
| Mills and Walter | 26, 27, 28, 29, 30, 57, 58, 105, 113, 316, 173, 174, 175, 176,177, 178, 179, 180 | 75, 76, 311, 313, 314, 43, 44, 48, 49, 50, 51, 52, 223, 265, 278, 279, 280, 281, 282, 283, 284, 288, 329, 332, 333, 334, 364, 374, 290, 291, 292, 293 |
| Ulman and Gould | | 34-36,46,58,66,67,70,91-93,201 |

**2.3 SUMMATION**

In Section 2, I presented the results of my investigation of the backgrounds of the women and men authors and selected features of their textbooks. In Section 3, I will discuss these results in relation to my claim that I did not find any evidence to explain why women-authored textbooks have been or should be marginalized.

# 3. DISCUSSION

In this section, I discuss the results I presented in Section 2. First, I discuss the relative qualifications of the men and women authors. Second, I discuss each of the seven features of their textbooks. Throughout my discussion, I engage in comparative analysis.

## 3.1 QUALIFICATIONS OF AUTHORS

The biographies of the women and men authors revealed similarities in their lives, including their status in society, work history, and their effect on peers. To determine their qualifications for writing a textbook, I looked specifically at the university degrees they obtained and how many years they spent working in industry and/or academia. In general, the women authors possessed more education than the men authors. Seven of the nine women earned master's degrees, compared to five of the six men authors. The women authors also earned more doctoral degrees (four to one). The women were educated in teaching, English, literature, and/or writing, suggesting that they were qualified to write textbooks about written communication. Two of the six men authors were educated in engineering; the others were educated in English, literature, and/or history. With regard to industry work, Fitting spent 21 years and Ulman spent 20 years in industry before publishing their textbooks; none of the women spent time in industry. Five men authors spent at least six years in academia before publishing their technical writing textbooks. Four women in my study spent 15 years or more teaching, whereas only three of the six men in my study had done so (not including Trelease, Houp, and Kline, whose backgrounds I did not investigate), see Tables 2.1 and 2.2 for complete

academic backgrounds. Fitting's and Ulman's industry experience notwithstanding, these women authors had roughly the same qualifications as the men for writing a technical writing textbook.

## 3.2 FEATURES OF TEXTBOOKS

In Sections 3.2.1 through 3.2.6, I discuss the textbook features I analyzed and compared:

- Number of editions
- Number of pages
- Presentation of author's name
- Intended audience
- Readability
- Subjects covered
- Types of visuals

**3.2.1 Number of Editions.** The women authors published on average four editions; by contrast, the men published 2.75 editions of their textbooks. Of these, Fitting's textbook had only one edition; Norgaard's book, too, had only one edition. At the other extreme, Mills and Walter's popular textbook went through five editions, while Pickett and Laster's textbook went through 11 editions. Several of Pickett and Laster's editions were published in the 1980s and 1990s when the number of technical writing courses and degree programs were increasing rapidly. These circumstances may explain why their textbooks saw so many more editions than earlier textbooks. Number of editions, however, does not seem to explain why most women-authored textbooks were omitted from most of our textbook histories.

**3.2.2 Number of Pages.** The women-authored textbooks contained an average of 252 pages, while the men-authored textbooks contained an average of 236 pages – a difference of just 16 pages. The largest women-authored textbook was Pickett and Laster's at 422 pages, and the largest men-authored textbook was Mills and Walter's at 310 pages. Trelease and Yule's textbook had the fewest pages among the women-authored textbooks, while Fitting's textbook had the fewest pages among the men-authored textbooks. The number of textbook pages, however, is influenced by the dimensions of the textbook, the point size of the type, and other factors, so it is not a reliable indicator of a textbook's length. Although readers can make assumptions about a textbook based on its size and/or number of pages, and conceivably size could have been a selection criterion among the authors of our textbook histories, there is no reason to believe that number of pages played a role in the marginalization of the women-authored textbooks.

**3.2.3 Presentation of Author's Name.** The presentation of the authors' names appears to have been gendered. Five out of the seven women-authored textbooks (or 71 percent) used the author's initials or last name only on the external textbook cover. However, all of the men-authored textbooks used the author's full name (first and last) on the cover. Research has shown that, during the 20$^{th}$ century in America, women textbook authors were highly discouraged from using their first names because first names often reveal the author's sex. With regard to this issue, Connors (2004) suggested that Harbarger's publisher used her initials on her technical writing textbook so men in the field would not be intimidated (p. 335). However, I was easily able to locate the sex of the authors whether their first names were spelled out or not. The authors of our textbook

histories would probably have known whether the author of a given textbook was a man or a woman, even without the aid of current technology. I cannot rule out the possibility that the author's sex was a conscious or subconscious selection criterion, but the presentation of the author's name on the book's cover does not seem to explain the marginalization of the women-authored textbooks.

**3.2.4 Intended Audiences.** I determined the intended audience of each textbook from statements made by the author and/or the Flesch Reading Score. The author statements reveal that not all of the textbooks had a similar intended audience; in general, the audiences were those who want to improve their writing abilities, increase their knowledge, and find employment. The audiences varied from students to those working in industry. Because the intended audiences varied among textbooks, this variance could explain why one textbook was selected to be used as an example in historical studies and another was not. For example, a textbook intended for students at a two-year college might not have been regarded in the same way as a textbook for students at a four-year college or a textbook for non-students. Intended audience does not seem to explain why Tichy's textbook has been marginalized and Earle's has not been even though they both wrote for the same audience; however, I cannot rule out the possibility that the authors of our textbook histories consciously chose textbooks intended for students in four-year colleges rather than two-year colleges or non-students.

In addition, all of the textbooks scored between 43.45 and 61.62 on the Flesch Reading scale. These reading score averages indicate that the readability level of the writing fit the intended audiences of the textbooks, because a score of 60 to 70 represents suitability for a literate adult audience (Edit Central, 2012). The lower the score, the more

education an individual would need to comprehend the reading (Edit Central, 2012). Since these textbooks were used in beginning technical writing courses, for mostly non-technical writing majors, the reading score of 60 to 70 was acceptable. I did not find any evidence that the intended audience contributed to the collective marginalization of the women-authored textbooks in our histories of technical writing textbooks.

**3.2.5 Readability.** Tables 11 and 12 in Section 2.25 present the data I collected on the readability of the textbooks. On average, the paragraphs I analyzed from the women-authored textbooks had 1.5 syllables per word; the same was true of the paragraphs I analyzed from the men-authored textbooks. Despite this similarity in the average number of syllables per word, the women-authored paragraphs contained fewer words (an average of 68) than the men-authored paragraphs (an average of 73). The men-authored paragraphs averaged 3.7 sentences, while the women-authored paragraphs averaged 3.6 sentences. In addition, the women-authored paragraphs contained an average of 5 characters per word, while the men-authored paragraphs contained an average of 4.85 characters per word. In other words, the words in the men-authored and women-authored textbooks were approximately the same length.

The collected data on readability showed that the women-authored textbooks have not just fewer words and sentences per paragraph, but also fewer characters per paragraph, resulting in smaller paragraphs. The smaller paragraphs allow for more white space, are less difficult to read, and are less intimidating than long paragraphs (Markel, 2007, p. 212). Therefore, the women-authored textbooks and men-authored textbooks had similar readability in terms of average number of syllables and characters per word; however, the women-authored textbooks did have shorter and easier-to-read paragraphs.

Although conceivably a textbook's readability could have influenced its selection, particularly if the style of writing seemed erudite or "college level," I found no evidence to suggest that readability actually served as a selection criterion.

**3.2.6 Subjects Covered.** The women-authored textbooks, on average, covered six subjects related to invention, while the men-authored textbooks, on average, covered seven invention-related subjects. The women-authored textbooks averaged four subjects on arrangement and four on style, while the men-authored textbooks averaged five on arrangement and two on style, respectively. Thus, the women and men gave roughly equal coverage to invention and arrangement, but the women authors gave more coverage to style. The women- and men-authored textbooks averaged one delivery-related subject. None of them covered memory-related subjects. I therefore conclude that, except in the treatment of style, the women- and men-authored textbooks were similar in content (i.e., their coverage of technical writing subjects). I have no reason to believe that the greater attention to style in the women-authored textbooks was (or should be) a cause of their marginalization.

**3.2.7 Types of Visuals.** All of the women-authored and men-authored textbooks included visuals. The average women-authored textbook included 52 visuals, while the average men-authored textbook contained 34. Among the women-authored textbooks, Blickle and Houp's textbook provided readers with the most visuals at 87; among the men-authored textbooks, Mills and Walter's textbook provided the most visuals at 50. At the other end, Norgaard included only 10 visuals in her book, while Ulman and Gould included 11. Most of the visuals from both the women- and men-authored textbooks would be classified as arrangement because they provided the reader with outlines of

various documents. Regarding visuals, McKenna and Thomas (1997) stated that visuals enhance effective learning (p. 442). Therefore, one might argue that the women-authored textbooks did more effectively enhance learning of technical writing because on average the women-authored textbooks offered more visuals than those that were men-authored, but it is not clear that this difference influenced selection in any way.

# 4. IMPLICATIONS AND CONCLUSION

My research focused on the backgrounds—and more specifically the qualifications — of selected men and women authors and key features of their textbooks, all published between 1923 and 1973. Among the women authors, only Harbarger and her textbook *English for Engineers* have received ample attention in scholarly literature about the history of technical writing, probably because she was one of the very first women to publish a textbook in the field, and she had abundant experience in the discipline of engineering. The same literature only occasionally mentions the textbooks by Yule, Blickle, Tichy, and the others, but usually mentions the textbooks by Fitting, Earle, Mills/Walter, and Ulman/Gould. After comparing the men and women authors in terms of qualifications and certain features of their textbooks, I did not find any reason to explain why the women-authored textbooks have been or should be marginalized in the way that they have been.

My study has several limitations. For example, I examined a small number of textbooks and authors. Specifically, I studied four textbooks by six men authors, seven textbooks by nine women authors, and three textbooks by seven women and men co-authors. My sample included all of the full-length technical writing textbooks I could find that were authored by women and published mainly in the U.S. between 1923 and 1973. As far as I know, the only relevant women authors I omitted were Lyne S. S. Hoffman, who joined two men as co-authors of the 1950 edition of *Report Writing*, and Martha Passe, who co-authored a technical writing reader with Blickle. I did not include Hoffman because I found out about her after I finished my study. With more time, I could

have studied more men-authored textbooks and more editions of the women-authored textbooks. Doing so would have allowed the averages to be more accurate and precise.

Another limitation of my study is that I did not examine all of the potentially relevant features of the textbooks. A more thorough investigation would include an in-depth analysis of the surrounding circumstances of the technical writing textbooks from 1923 to 1973. For example, I did not consider the number of textbooks sold, which schools used them, how well they were received by reviewers, etc. Therefore, more research could be done to determine whether a comparison of the women- and men-authored textbooks in terms of these factors might shed light on the marginalization of the women-authored textbooks.

My study is also limited by the textbook features I did not consider. I compared the following features of the textbooks: number of editions, number of pages, presentation of author's name, intended audience, readability, subjects covered, and number and types of visuals. However, I did not analyze and compare the sentence functions or sentence types within the men-authored and women-authored textbooks. Additional research could also be done to compare the differences among the visuals in the textbooks. For example, I did not analyze the visuals' wording and design.

More information about backgrounds of the authors, men and women, is also need to better evaluate the women's qualifications for authoring technical writing textbooks. I was unable to interview most of the authors whom I discussed because they are deceased. I did attempt to interview Laster and Dr. Pickett, who are still living; however, I was unsuccessful in doing so. Nevertheless, I was able to contact a few colleagues and family members of some of the deceased and living authors. Future research might include

additional interviews, which might yield more personal and academic information, such as their academic majors. I was not able to identify the undergraduate and graduate majors of some authors. By knowing the majors of the authors, I could have determined whether the men authors were more likely to have academic degrees in engineering or the sciences than the women authors.

Since I used a randomizer to select 10 percent of each textbook's page numbers, and then selected the first paragraph on each of the selected pages, the number of samples was small. Future research should include a larger number of samples from the men-authored and women-authored textbooks. The additional data might confirm that the averages and my analysis are correct. Since my research focused exclusively on textbooks, future research could go beyond textbooks, offering more information on other pedagogical practices of men and women instructors at the university level.

This study suggests that the women-authored and men-authored textbooks I analyzed were similar in content, readability, and publication information and that the authors had similar education and work experience. The few differences I did find were not sufficient to explain why the women-authored textbooks have not received more attention by technical communication scholars. This marginalization might lead society to believe that women were not represented among the authors of technical writing textbooks, particularly in the 1950s and 1960s. This marginalization may cause women to feel that they have no birth right or significant heritage in a historically masculine profession. Malone (2010) has questioned whether technical communication was ever really "a 'masculine' field," emphasizing that women technical communicators were more numerous than previously thought and women played instrumental roles in the creation of

the technical communication profession (p. 176). It is important for women in the field to know that women have been authoring technical writing textbooks for nearly a century and that there is a long and substantial tradition of women-authored textbooks in technical communication. My research is a first step toward recovering the contributions of these women to the history of technical writing.

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# VITA

Melissa Nicole Wampler earned a Bachelor of Science from Missouri State University in Springfield, Missouri, in May 2011. While at Missouri University of Science and Technology, she worked as a Graduate Teaching Assistant in the Department of English and Technical Communication. She earned a Master of Science in Technical Communication from Missouri University of Science and Technology in 2013.