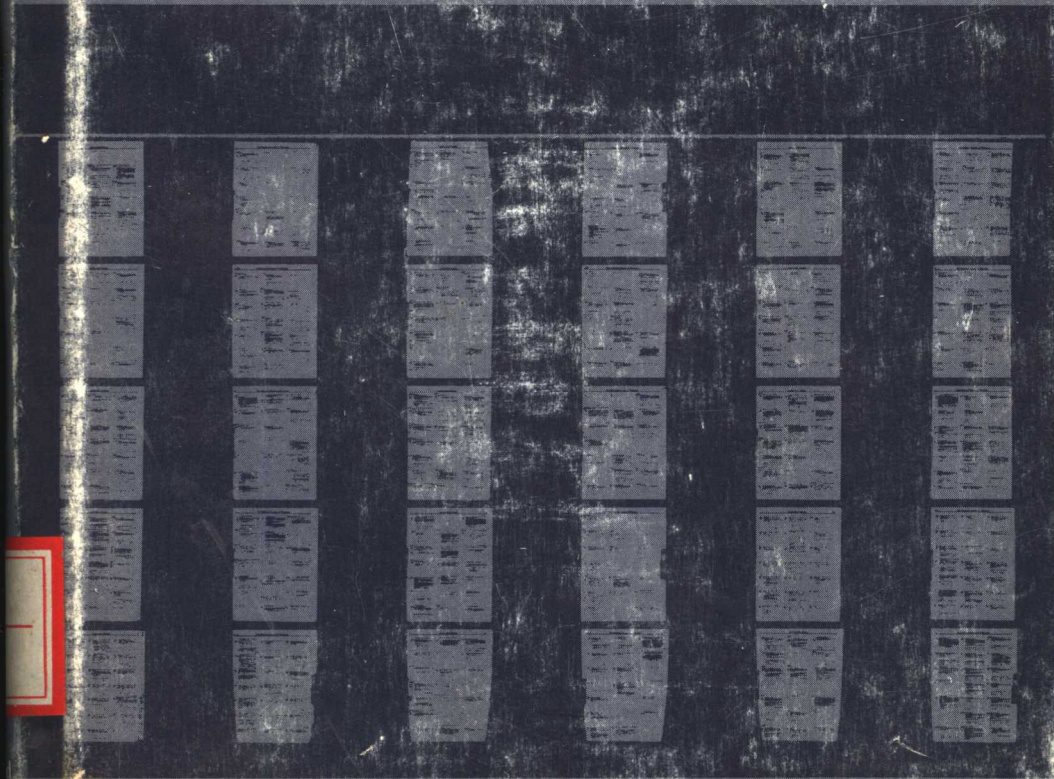


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ALAN MARSHALL MECKLER

MICROPUBLISHING

A History of Scholarly
Micropublishing
in America,
1938-1980



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Micropublishing

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INTRODUCTION

For the past ten years scholarly micropublishing has been the focus of my career. I first became involved in this field while working for Greenwood Press, a Westport, Connecticut, publisher. My job was selling micropublications to libraries, and during a four-month period (November 1970 to February 1971) I contacted in person or by telephone nearly 300 college, university, and public librarians.

It soon became apparent to me that few, if any, of the librarians fully understood all the considerations involved in a decision to purchase a micropublication. While the content is usually obvious from the title ("United States Congressional Hearings" on microfiche needs no explanation) and certainly is the determining factor in terms of an individual library's need for a micropublication, librarians asked few questions about such basics as "finding aids," the keys to locating a specific document on microfiche or a reel of microfilm.

It is not difficult to understand the reason for their lack of familiarity with the factors that ultimately determine a micropublication's usefulness—its finding aids, the reduction ratio (for a definition, see the Glossary), and other aspects of technical quality. Few of the nation's graduate schools of library science offered courses in micrographics management. Furthermore, there was no independent source of information about scholarly micropublications. While new titles in every area of scholarship are reviewed, no such independent evaluation existed for micropublications.

In an attempt to meet what I saw as an important need, in March 1971 I founded the quarterly journal *Microform Review*. The first issue appeared in January 1972. It and each subsequent issue contains three to four articles on library micrographics management and fifteen to twenty microform reviews that analyze not only content but the technical quality of the publication as well, taking into consideration image quality and, if applicable, the accompanying finding aids.

Microform Review received an enthusiastic reception from the library community and, over the past seven years, has become acknowledged as the primary source for micropublication reviews. As its publisher, I have had a unique opportunity to observe and participate in the growth of scholarly micropublishing in the 1970s. I have often been asked about the history of micropublishing, and, despite the extent of my own involvement, I have had to confess ignorance of its origins and the pace of its growth prior to 1970.

My own curiosity about a field with which I have a daily concern, together with my educational background in history, seemed to dictate that I write a history of scholarly micropublishing in the United States. Certainly, the need for such a history is evident. Many articles have been written about specific events in the evolution of scholarly micropublishing, but neither a book-length approach nor a dissertation had been attempted. And, although the history of photography has been studied and written about in depth, only one book, Frederic Luther's *Microfilm: A History*, has documented the development of microphotography. It encompasses the period from the early nineteenth century to 1900. Any history of scholarly micropublishing, including this one, owes a debt to Luther's work.

In approaching my topic, it soon became evident that few primary sources were available for the study of microphotography and that I would therefore have to rely on some secondary sources and, to a large extent, on interviews. Surprisingly, few of the people interviewed had kept personal papers relating to their involvement with scholarly micropublishing. Several, particularly those entrepreneurs who entered the field solely as a commercial venture, simply did not bother to keep papers that might

have had some historic value. Others lost or misplaced papers during the course of their careers, especially as businesses changed hands. Although some interviews took place by telephone or letters, most were conducted face to face in the United States, England, France, and Holland.

As this work progressed, two major themes emerged. The most obvious is the resistance to the use of micropublications among scholars. Although in the last forty years scholarly micropublishing unquestionably has greatly expanded the amount of available research materials, the fact remains that few people really like to use microforms. This resistance can be traced to two factors: a psychological one stemming from the inconvenience of placing a piece of machinery between the reader and the written word, and a related technological one stemming from the fact that the devices used to read microforms are largely unsatisfactory.

The second, overriding theme is the failure of micropublishing to fulfill the expectations of the pioneering scholars, librarians, scientists, and entrepreneurs who envisioned a future far more grandiose than today's modest realities. Microforms have not solved all the problems of libraries. They have not replaced the book as some predicted and others feared. They have improved, but have not revolutionized, libraries in two ways: (1) they help save space, and (2) they enable libraries to purchase publications that would be unavailable or prohibitively expensive in any other form.

If microphotography has revolutionized anything, it has been records-keeping in the business sector. Today, banks and other businesses, large and small, routinely store records ranging from canceled checks to invoices and purchase orders on microforms. In dollars and cents terms, the market for microforms and micrographics reading and copying equipment in business and industry surpasses that of scholarly micropublishing more than fivefold.

This study is by no means a technical analysis of micropublishing, although, of course, certain technological developments have determined the course of its history. (However, because some of the terminology may be unfamiliar to the reader, a glossary has been included and follows the Conclusions.) I have

attempted to trace scholarly micropublishing as it evolved and expanded from its inception in the 1930s to the present. I have looked beyond its current status to consider the future in the light of past and present publishing economics. It is clear that in this age of spiraling inflation there will be increased demands on micropublishers to offer scholarly monographs, journals, and reference books that are too specialized to warrant the much greater costs of publication in hard copy. It is also evident that the expansion of research libraries will be determined, to a great extent, by what is both available and affordable and that scholarly micropublishing is uniquely suited to meet both those needs.

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To
Allen B. Veaner
a micropublishing pioneer

1

THE EVOLUTION OF SCHOLARLY MICROPHOTOGRAPHY

Scholarly micropublishing today owes its very existence to an evolutionary process dating back to the time of Alexander the Great: the development of photography and, subsequently, microphotography. This chapter reviews the history of photography and the refinements in the photographic process that made possible the reduction of a page of print to the minute image on today's microfiche.

Although the most significant photographic developments took place in the nineteenth and early twentieth centuries, the concept of photography is an ancient one. Aristotle described a rudimentary camera with a tiny opening or aperture that focused an image on a white screen in the back of the camera, a box large enough for an individual to enter and then trace the image on the screen.¹ By the mid-sixteenth century, lenses replaced the pin-hole aperture, and the opaque screens gave way to translucent ones. Now, the image could be traced from outside the box, a technique that painters and others first adopted on a major scale.

Meanwhile, attempts continued to be made to capture the camera's image photographically. Although the alchemists of the "dark ages" knew that certain compounds of silver darkened under appropriate conditions, it was not until 1727 that a German chemist, Johan Schultze, proved that the mysterious darkening agent was, in fact, light. He placed black stencils over paper coated with silver chloride and created the first photograms, but he could not prevent the rest of the silver sheet from blackening as soon as the stencils were removed.²

In 1802, Thomas Wedgwood produced contact copies of leaves and painting on glass. Wedgwood, son of the well-known potter, claimed that his superposition printing was "useful for making delineations of all such objects as are possessed of a texture partly opaque and partly transparent."³ This, however, was not photography: it merely depicted a visible image from a scene.

Seventeen years later, the English astronomer, Sir John Herschel, made a discovery that insured the success of modern photography. He found that a colorless salt compound (sodium thiosulfate) could dissolve the portion of the silver compound not previously exposed to light, leaving the exposed and blackened grains of silver unharmed.⁴

Herschel's work paved the way for the first photographs, but it was not until the 1950s, through the studies of Helmut and Alison Gersheim, that Joseph Nicéphore Niepce finally was credited with producing the first photograph in 1826.⁵ His effort was a poor specimen, both artistically and technically.⁶ Niepce's partner, Jacques Mande Daguerre, had more luck, and history records that he took the first successful photograph. In 1839, Daguerre developed a process whereby a photograph could be produced on a silver-coated copper plate treated with iodine. This "Daguerreotype" produced fine pictures of inanimate objects; improvements in the speed of the plate soon made it appropriate for portraits as well.

That same year, an Englishman, William Henry Fox-Talbot, devised an alternative process, a negative-positive technique (calotype) in which sensitized paper was used instead of metal plates. Although Talbot's photos lacked the fine detail of Daguerre's, they were easier and cheaper to produce, and the process itself allowed for duplicate prints.⁷

Still another photographic breakthrough occurred in 1839—the production of a microphotograph by John Benjamin Dancer, the son of a Liverpool, England, microscope and optical manufacturer, Josiah Dancer. Dancer's interest in photography was stimulated by the news of Daguerre's and Fox-Talbot's discoveries. Dancer began to experiment and within several weeks had produced satisfactory pictures with the Daguerreotype process. Then, combining the Daguerreotype process with a microscope,

he installed a microscope lens (of 1½ inch focal length) in a camera and produced a microphotograph. His subject was a document measuring 20 inches long. With a 160:1 reduction, the image was ⅛ inch long, but the writing was legible under a 100 × microscope.⁸

Although Dancer continued to make microphotographs using the Daguerreotype process, he considered them novelties. It was left to his son to describe the microfilm camera and operating method Dancer developed:

An ordinary microscope was not used. A bat's wing burner furnished the light (behind a conventional large-size negative) and this was placed inside an optical lantern, the image passing through a lens and condensing system giving a convergent beam of light, the latter finally entering the micro-objective (in the case a ½") from the back. The whole thing was horizontal, and the entire apparatus was enclosed in a canvas-covered tent, a sort of improvised dark room.⁹

In 1851, twelve years after Dancer produced the first microphotograph, development of another technique—the wet collodian process—furthered the evolution of photography and microphotography. Developed by Frederick Scott Archer, this new process utilized cellulose nitrate (guncotton) dissolved in ether and alcohol. A glass plate was coated with the solution and then sensitized by immersion in a bath of silver nitrate.¹⁰

Others experimenting with microphotography at the time included George Shadbolt, editor of *The Photographic Journal*, who for many years claimed microphotography as his own invention but finally recanted.¹¹ A. Rosling, treasurer of the Photographic Society of London, exhibited the first newspaper microphotographs in pages from the *Illustrated London News* and described them as follows:

In every instance I have found the definition perfect; and the one now on the table is the eight-hundredth part of the original size; the length of the lines composing the lens is the seven-hundred-and fiftieth part of an inch, and about half the thickness of the human hair.¹²

The work of Dancer, Shadbolt, and Rosling inspired a glowing tribute from the editors of the eighth edition of the *Encyclopaedia Britannica*, published in October 1857:

Among the wonders of microscopic photography not the least interesting and useful are the fine microscopic portraits taken by Mr. Dancer of Manchester, and copies of monumental inscriptions so minute, that the figures in the one, and the letters in the other, are invisible to the eye. A family group of seven complete portraits occupies a space the size of the head of a pin; so that the *ten thousand* single portraits could be included in a square inch.

Microscopic copies of dispatches and valuable papers and plans might be transmitted by post, and secrets might be placed in spaces not larger than a full stop or a small blot of ink.¹³

Yet, not everyone appreciated microphotography. Thomas Sutton's *Dictionary of Photography* published in 1858 dismissed it as "childish" and "useless."¹⁴

Although Dancer was the inventor of microphotography, he was not the first to suggest using it for scholarly purposes. Until recently, it was believed that the idea first was proposed by Sir John Herschel in the early 1850s, but research now indicates that it was made almost simultaneously by James Glaisher, an English astronomer. In 1851, Glaisher attended the Great Exhibition in London and was appointed reporter for the class (number X) entitled "Philosophical Instruments and Processes Depending on Their Use." In the introduction to his report, Glaisher devoted two of the three pages to "the most remarkable discovery of modern times—the art of Photography." He went on to argue for the use of microphotography in the preservation of documents.¹⁵

Herschel also attended Class X, and two years later in a letter to his brother-in-law, John Stewart, he made his first written suggestion for microphotographing documents. Then, on July 6, 1853, Herschel wrote to the editor of the *Athenaeum*: