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Some notes:

- Currently we don't have indexes for volumes 32 and 33, and volume 34 is in process. We could create the indexes for volumes 32 and 33, and I think we should. We also could add to the overall index issue by issue as we move through volume 34 (it might be easier that way than waiting until the end of the year).
- Now that I have written a little LaTeX script to pull the PDF files for all of the existing volume indexes into one file, it would be easier to do something else, e.g., create an HTML page with links to the individual volume indexes.
- A next step with the existing overall index PDF file is to make the table of contents page numbers be hot links to the appropriate pages in the file.
- It is worth considering how easy or hard it would be to write a program to merge all of the volume indexes into one overall index (I did this for the TeX Users Group, `http://tug.org/tugboat/contents.html`).
- As I searched the on-line issue tables of contents for annual indexes, I didn't find a 25-year index that someone mentioned at the meeting. Please direct me to it if you know where it is.
- My idea is that some more refined format of this overall index could reside outside the Annals archive paywall.

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quently, the clearest and most penetrating explanation of a deep idea comes from the creator of [illegible]a.

Jeffrey Nunemacher

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BRIEFLY NOTED

❑ William Aspray and Bernard O. Williams, **Computing in Science and Engineering Education: The Programs of the National Science Foundation**, *IEEE Electro/93 International Conference Record*, Vol. 2, Communication Technology and General Interest, IEEE, New York, 1993, pp. 234-239.

This is a useful account of the changing programs of NSF involving computer education, from limited grants, especially to mathematicians, for advanced computer training in the early 1950s; to increased funding for all types of science education in the period from 1958 to 1966; to the activities of the Office of Computing Activities in the years 1967 to 1972; to programs of both the Division of Computer Research and the Educational Directorate in the years 1974 through 1980.

❑ Colin Burke, **An Introduction to an Historic Computer Document: The 1946 Pendergrass Report Cryptanalysis and the Digital Computer**, *Cryptologia*, Vol. 17, 1993, pp. 113-123.

Cryptographic agencies have long been an important, though often hidden, market for computers. In 1946, James T. Pendergrass of the US Navy's OP20G spent a month at the Moore School of Electrical Engineering of the University of Pennsylvania, attending the seminar on computing techniques offered there (see next review). This article sets the context for this report.

❑ James T. Pendergrass, **Cryptanalytic Use of High-Speed Digital Computing Machines**, *Cryptologia*, Vol. 17, 1993, pp. 124-145.

An early account of the possible applications of digital computers to cryptography, based on a cryptographic officer's attendance at the series of lectures held at the Moore School of Electrical Engineering in the summer of 1946. Censored.

❑ Tony Seideman, **Bar Codes Sweep the World**, *American Heritage of Invention and Technology*, Vol. 8, Spring, 1993, pp. 56-63.

A brief history of the introduction of bar codes. Norman J. Woodland and Bernard Silver, who met as graduate students at Drexel Institute of Technology in the late 1940s, patented a bar-code reader in 1952. IBM, Philco, and Sylvania toyed with the idea of building scanners, but they did not become practical products until Computer Identics introduced a device for industrial use in 1969. Laser technology, combined with integrated circuits, the adoption of the Universal Product Code, and alert marketing by RCA, gave rise to the widespread adoption of bar-code readers in grocery stores in the 1970s.

❑ Doron D. Swade, **Redeeming Charles Babbage's Mechanical Computer**, *Scientific American*, Vol. 268, No. 2, Feb. 1993, pp. 86-91.

To honor the bicentennial of the birth of Charles Babbage, the Science Museum in London constructed a difference engine from his plans. This readable account of the project by the responsible curator is noted here as one of several articles on the history of computing published in *Scientific American* over the past few years.

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the first applications identified for home computing was to keep recipes, an application that identified the machines with women's instructional literature and hence with the home. Although we can still buy recipe software (and a few other programs that we could consider part of women's instructional literature, such as genealogy programs and interior design programs), such applications have not been successful in the marketplace and, by extension, have added little to Western society as a whole.

The computer itself has become the center of instructional literature. Western society's cultural elite, at the very least, uses computers to organize their lives at home, and for that purpose, they need advice on how to select the best machines, how to use the machines successfully, and what knowledge is required of the skilled user. We need to know how to type more than we need to know how to do long division. It is more important to know how to organize a hard drive than to know how to organize paper files or design a pleasing garden. Society now puts a higher value on those who make creative use of a Boolean search engine than those who can synthesize ideas from hundreds of pages of texts.

The connection between the computer and women's instructional literature will become more important as we shift our attention from the invention of the machine to its application in families, businesses, and governments. When we attempt to place the computer in the context of instructional literature, we will discover the importance of gender in this analysis. In the US, women's literature is much richer than the men's, which consists of things such as Boy Scout manuals, business books, and airline magazines. The men's literature claims to teach its readers how to exploit the social structure for increased gain. The women's literature teaches its readers how to fit into the social structure and how to reproduce that structure. Both themes are present in the knowledge that surrounds the digital computer, and we will need to understand both to grasp how the computer reshaped society during the last decades of the 20th century and the first decades of the 21st.

The next generation of computer historians might not start their work with the texts that we now consider canonical, texts such as John von Neumann's *The Draft Report on the EDVAC*, Herman Goldstine's *The Computer from Pascal to von Neumann*, or even Fredrick Brooks' *Mythical Man-Month*. Instead, they may start with Catherine Beecher's *A Treatise on Domestic Economy*, George Blakelee's *Industrial Cyclopedia: How to Make and Mend*, or even Irma Rombauer's *The Joy of Cooking*.

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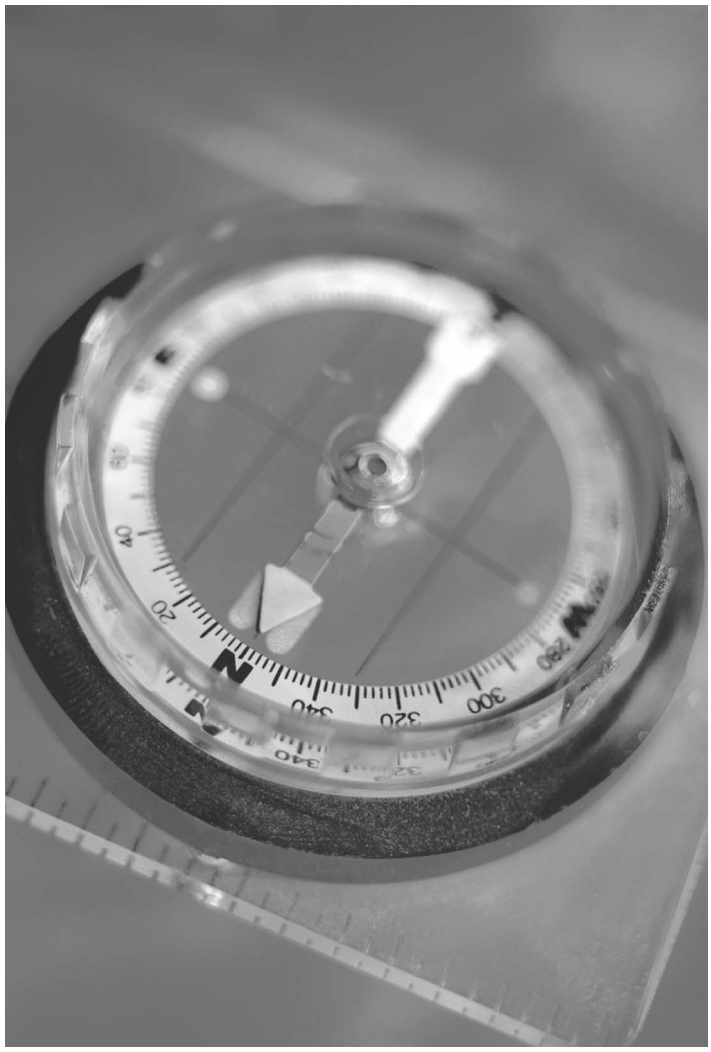

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