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Information Delivery: Where Editors and Librarians Meet

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INFORMATION DELIVERY: WHERE

EDITORS AND LIBRARIANS MEET

From the beginning of recorded time librarians and editors have existed side by side. This phenomenon has its very roots in the modern book and can be seen as early as the third century BC in the great library at Alexandria established by Ptolemy I. There scholars copied, revised, collated and edited works of classical writers, many of which became our standard editions. These manuscripts became the basis of most of the manuscripts in early European libraries. Although the medium changed for the actual storage of knowledge, the production process changed very little. The papyrus roll made way for the book form, but which was more convenient (it is said that some papyrus rolls in the Library at Alexandria exceeded 30 feet in length), but the production was still concentrated in one area and very labor intensive. The first librarian is considered to be Flavius Magnus Aurelius, Cassiodorus to most people, a 6th century scholar who established two monasteries with large libraries. He encouraged the monks to devote their free time to copying the old religious and secular manuscripts thus preserving some of the works produced on the papyrus rolls.

This labor intensive book production kept recorded knowledge in the hands of the very rich. Renaissance men such as Lorenzo de Medici had large libraries at their disposal but there was not much for the common masses. As literacy spread so did the demand for cheaper reading material and this led to the introduction of printing with movable type in the west by Johann Gutenberg in the 15th century. Printing and scholarship were still entwined as scholars such as William Caxton not only translated and edited his works but also printed them
to resemble manuscripts.

It was during this process that editors and librarians diverged and the printing industry grew to meet the demand of the masses while libraries grew to provide for that demand for those who could not afford to buy the printed materials. Libraries in this country grew to meet the demand of our founding fathers. From the earliest days Congress had a library which was burned in the War of 1812. In order to fill this void, Congress authorized the purchase of the 6,000 volumes which comprised the library of Thomas Jefferson to have a base to begin building. This collection has grown and today it is the largest materials collection in the world and is known as the Library of Congress.

Information producing and information retrieval grew together in the United States. As publishing increased so did systems to handle the mass of material. In 1876 Melvil Dewey devised a subject classification scheme to organize materials by subject to aid those in trying to find books by subject. The Dewey Decimal System is used world-wide today and is the basis for the international scheme the Universal Decimal System.

Publishing in the sciences saw a steady growth in the twentieth century and saw an explosion in the post World War II era. Once again librarians rose to the occasion. Bibliographies were produced to alert people to what was available and subject indexing for periodicals became a part of the twentieth century. A whole new industry rose with scholars working for such companies as Chemical Abstracts assigning subjects to the literature and librarians making the indexes available and training people how to use them.
Publication and indexing were not speedy processes. Once a publication was finally available, then it was indexed. The indexing could take two to three months. Once it was indexed the production end of publishing came into the picture and it could take several years to get an index together and on the library shelves. This obviously became an intolerable situation for librarians and an overwhelming process for the indexing industry. As the body of literature continued to grow so did the level of frustration and as they say necessity is the "mother of invention". In the late 1950s and early 1960s computers came to the forefront as a solution to this problem. Automatic derivative indexing came into its own along with the use of the computer in the publishing process. The indexing process was streamline eliminating much of the human intervention. In the old system, some poor soul had to read each article and describe what it was for an abstract and then assign subject headings to it. Someone else then typed all this stuff in. With automatic derivative indexing, the citation was the basis for the indexing with the citation typed in and the machine manipulating it. Standard tools such as Biological Abstracts and Chemical Abstracts still maintained their quality control with abstracts but used the machine to derive standard and specialized indexes. Indexes such as the Bibliography of Agriculture used the machine exclusively to generate their indexes but they grew so unwieldy that some subject control had to be imposed. Even in the "machine" generation, human intervention was required.

By the late 1960s much of what was being published was being published with the aid of electronics to produce the printed tool. The use of the electronic media was a means to an end, to produce something that looked like the old lead typesetting machine but to do it more efficiently. (Remember William Caxton and his press -- printing materials to look like manuscripts. Out of this grew another industry, that of computerized literature
searching.

Computerized literature searching began as a spin off of the paper tool. Someone got the bright idea that not only could they sell their paper product, they could also sell access to the computer tapes that generated this paper tool and charge on a pay as you go basis. This was seen as auxiliary income and not the primary income of the publisher. This lead to a whole new industry and a new breed of editors. The editors now edited both the paper and electronic files for accuracy. Programmers developed sophisticated search programs to allow for advanced manipulation of these files. This product was very attractive to industry who liked the pay as you go concept that did not require the expensive storage of long runs of volumes. The editorial process was reflected in the price of the data base. Those data bases that were strictly machine generated with little human intervention were cheaper and much dirtier to search. Those databases that imposed quality control allowed for precision searching but were more expensive to search. It was not until the mid to late 1970s that this type of tool was made available in libraries to the general public. Once it did, like the printing press the demand grew and soon the revenue from the electronic products equaled the paper products. Libraries, however required the general public to pay for their search and still offered the paper products for those who could not. The pay as you go concept reeked havoc on library budgets and simply could not be accommodated. The search was on for a better way to provide this information with the speed and convenience of electronic searching.

The audio industry was the first to make use of the medium that has been hailed by some as the "new papyrus". Some say that it will have the impact of movable type on the information industry while others feel it is a flash in the pan. Whatever it will evolve into, CD-ROM is
making quite a splash in the information arena. Compact Disk Read Only Memory is a plastic disk measuring less than 4.5 inches across. This small disk has tremendous storage capacity and with the appropriate software, searching capacity. This disk holds approximately 200,000 printed pages and essentially can be searched by each word contained in those 200,000 pages. The disk can contain photographs, drawings, charts and can be totally retrieved in hard copy with the appropriate equipment. It does not have to be expensive equipment, I have two CD-ROM drives, graphics monitors and a laser printer at home, all that I need to access this. Even more importantly it can be inexpensively reproduced, after the mastering a copy costs approximately $2, it is durable, easier to mail and in many instances much easier to use. For example, I searched a 21 volume encyclopedia in less than a second to find my information on Cassiodorus. It is putting the capability to search electronically in the hands of the common man much as the printing press put the printed word in the hands of the common man. Literacy is taking on a new meaning in the age of electronics. Literacy in the pre-printing press days meant the ability to recite the oral traditions, once the printing press became firmly established it meant being able to read the printed word. Today literacy is becoming to mean the ability to manipulate electronic information products and the creation of these products is proliferating.

The age of electronics has created problems for both those on the editorial end of publishing and the retrieval end of publishing. With the advent of word processors and desktop publishing, both printed and electronic products are fairly easy to produce. Anything can be published and look nice but that does not necessarily mean that there is any quality control exercised in producing the product. Libraries have experienced a glut of material which has to be sorted through to decide if it is worth adding to the information system and making available through abstracts and indexes or whether or not it
is worth it to go through the expense of preserving and housing the material. There is a general feeling if something is printed, it must be true and we in the library profession in effect become censors by not indexing or preserving a "publication". Some things are not meant to be preserved, they are throw away literature, if you will and become outdated or need to be replaced. Old pesticide information can be dangerous and illegal so you want to have the latest information available to the farmer. This type of material lends itself well to the online environment so it can be replaced and continuously updated.

It has been hypothesized that the editorial process and libraries will be bypassed in the age of electronics. The use now of BITNET by faculty members to exchange papers electronically and many of you may remember the "cold fusion" incident that was communicated totally electronically around the world. The proposal by Senator Gore for "NREN" the interstate highway of research communication by computer networks all have a potential for bypassing those of us in the information production and retrieval business. I am sure that was the same hypothesis put forward by the early academies of science when they were no longer the center of scientific information. There is no substitution for quality control, accuracy, and ease of access and that is where librarians and editors meet.

The early libraries had information creation, editing and housing in one spot. While in the age of electronics that is not necessary, it does not negate the need for information professionals to work together. The author writes the work, the reviewer reviews it for subject accuracy, the technical editor cleans it up and makes sure that it is technically accurate, the indexer creates an access for it, and the librarian houses it so it can be retrieved on request and aids those who are trying to find the information. A typographical error or a miscoding along
the line means something is lost forever in the information system unless the individual retrieving the information makes the same mistake. Value added indexing is even more important to bring together all the variations of terms under one word. This allows for accurate and speedy retrieval.

Where do we go from here. I do not see us being replaced, I just see us functioning with different formats. If seeing something in print reinforces the belief that something is true, it is even more critical in the age of electronics. The mystic around computers is even more so than the printed word. Many people tend to think that it is a reasoning being rather than a machine that gives you exactly what you ask for. Electronic searching in the library on CD-ROM is a case in point. Many students plug in a term and then are amazed when it comes back with citations that they are not interested in. They think that if they put in the common term for something it will give them everything there is to know about the subject. They do not realize that they have to match letter for letter and term for term. And then there is the general feeling that if it comes out of the computer, its got to be true. What a set back to education if quality control is not imposed. A case in point is the electronic encyclopedia I referred to earlier. The photograph of the giant redwood is labeled as a big sagebrush and the big~ag{brush is labeled as a giant redwood. For someone who had never seen either, they would go through life thinking the redwood looked like a sagebrush. Quite often we find typos in the electronic tools we are dealing with when we make the same typo. The article with the typo may be the article that is the key to some ones research.

I see our role in the age of electronics as even more crucial. The need for quality control is still with us and a typo is now more than a minor irritation. Browsing is
complicated and specificity is the name of the game. The creation of access points and training for use will be more complex. Editors and librarians can work together to provide both. By working together editors can edit and pronounce the work "publishable" and once that is done the librarian can do the subject analysis and create the electronic index. By having both keyword and thesaurus, searching, retrieval will be more precise and people will get what they need off of a document. No longer will it be necessary to take the whole publication; for one portion of it, for the portion can be copied and taken away in either electronic or paper format.

Editors and graphic artists will have greater flexibility in how they present materials. With the melding of the digital and analog technologies you can have text and animation in the same file. Just think how much fun it would be to create some dull scientific table with a moving graphic sequence or to add sound to something or perhaps music. Color graphics can enhance any image for a fraction of the cost to do color publishing. The cost of publishing will go down tremendously as multiple copies are made just as it does in the paper printing business. The use of these products in education is mind boggling when you think of what can be done to enhance the quality of education.

The information industry is just as exciting as it has always been. I am sure the keepers and producers of the papyrus at Alexandria scoffed at the codex in its book format. The Renaissance nobility with their luxury libraries most likely labeled the printed form as substandard and lacking. So too both librarians and editors see the electronic format as a threat to their existence just as the academies of science felt they were losing control with the rise of the privately published scientific journal. Printed and electronic materials will remain side by side but the editor will have a choice on which format is more
appropriate and the best way to produce it. We will always have good quality electronic products along with those of not so good quality just as we have now. Librarians have always acted as "censors" if you will, by making purchasing decisions and not buying a work that is not of good quality. We must look beyond what holds the information and continue to be concerned about the information itself. With editor continuing to insure the quality and librarians continuing to assure access, we will be in the fore front of an information based society and that is not such a bad place to be.