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□ ONLINE DATABASES □

BY CAROL TENOPIR

Multimedia CD-ROM

THE FIRST GENERATION of CD-ROM products were almost all CD equivalents of online products, many of which were in turn online equivalents of print publications. Producers of bibliographic and directory databases, especially, found it was quick and relatively inexpensive to use CD-ROM as a third distribution option for products already distributed in print and online. CD-ROM combines powerful search capabilities and user-friendly software on a high-density storage medium that makes it ideal for offering end user searching of large text-based indexes or directories in the library.

A new generation

For CD-ROM to become more than merely an alternative distribution medium, and to go beyond the limited market for directories or indexes, there must be a new generation of publications that take advantage of the unique capabilities offered by CD-ROM. At the 1990 Fifth Annual Microsoft CD-ROM Conference held in March in San Francisco finally it was evident that CD-ROM as a publishing medium is coming into its own.

Multimedia CD-ROM interleaves sound and pictures with ASCII text on a single compact disc. Using new data compression techniques, they can hold thousands of digitized photographs, maps, or other graphics plus sound, in addition to many millions of characters of text. Some of the new products even include limited numbers of motion picture clips. Interleaving allows audio and text or graphics to be played simultaneously or even allows publishers to record two different audio tracks for bilingual publications.

The preferred new multimedia CD-ROM products will run on a

standard microcomputer configuration, will be popular in a library collection, and are affordable. Most run on IBM hardware or compatibles and require 640K RAM (some require 1MB), VGA graphics card and VGA color monitor, 20 MB hard drive, standard CD-ROM drive, IBM speech adaptor and card (or CD-ROM drive with audio output), and a mouse. Although Bill Gates, CEO of MicroSoft, called for a higher end base-level hardware configuration for multimedia applications, many CD-ROM producers said they must design products that work on the hardware that is already owned by most of their customers.

Compton's MultiMedia Encyclopedia

Since its introduction last fall, the Compton's MultiMedia Encyclopedia has won a host of awards. At the Microsoft conference, the encyclopedia received the grand prize in the first annual Philips/Du Pont Optical Company CD-ROM Creative Applications competition. The CD-ROM product includes the entire text of the 1989 edition of the new Compton's print encyclopedia plus the Merriam-Webster Intermediate Dictionary and 15,000 illustrations, 45 animated sequences, and a total of 60 minutes of sound.

The graphics-oriented main menu gives students the choice of eight different "paths to learning" (eight ways to get into the encyclopedia). An **Idea Search** is for students who know what subject they are looking for. They type in a topic or even a topic phrase such as "animals in North America" and the system will search for articles that contain the combination "animals" AND "North America." The list of articles is presented ranked according to the frequency of the search words.

The **Title Finder** is an alphabetical list of the titles of the 5000 articles in the encyclopedia. Students may type in a title or just the first few letters of a subject they are interested in and the system presents them with an alphabetical list of titles. They can

move up and down through the list, highlighting and clicking on a title to retrieve the article of interest.

The **Topic Tree** organizes the articles hierarchically by topic family. A student interested in music would go to the arts topic tree, choose the category music, and then browse through the list of articles on music, instruments, and musicians. The **Picture Explorer** is another browsing device, but this time through pictures or picture captions. When students locate a picture of interest they click on the picture with the mouse and the related article appears. A **World Atlas** interface shows students a map of the world from which they can zoom in on a geographic area to select articles related to that area. Alternatively they can ask the system to draw a map of a specific geographic area.

The **U.S. History Timeline** presents important historical events in the timeline format. Clicking on an event will bring up a short description of the event and a summary of why it was important. Related articles can be selected from a list. For some events there are sound augmentations—excerpts from speeches by modern figures such as Martin Luther King Jr., John F. Kennedy, or Richard Nixon or simulations of speeches by historical figures such as Tom Paine or Thomas Jefferson.

Science Feature Articles is a series of articles selected by a panel of teachers. Each article uses animation, sound, and/or graphics to enhance the presentation, e.g., in the article on anatomy, students can zoom in on a picture of a human skeleton to select a specific body part. They can then see, for instance, a moving X-ray image of the hand and joints. Any word underlined has a glossary definition and sound pronunciation available by clicking on the word.

Research Assistant is a set of 300 research assignments on 100 different topics. Nice features available anywhere in the encyclopedia include hypertext links between articles, a bookmark function so students can place markers in an article, and a



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note pad so students can record personal notes and transfer them to a word processing program at the end of the search session.

The stand-alone version of Compton's is \$795 for libraries or schools. Contact Encyclopaedia Britannica Educational Corp., 310 S. Michigan Ave., Chicago, IL, 60604; 800-554-9862. A network version is available from Jostens Learning Corp., 800-521-8538 or 619-587-5087.

Grolier Electronic Encyclopedia

Compton's has now set the multimedia standard for popular encyclopedias on CD-ROM and this will be an interesting area to watch as the competition intensifies. The first two editions of the Grolier Electronic Encyclopedia included text only, but a third edition (1990) includes pictures as well. Photographs and illustrations from the print *Academic American Encyclopedia* will accompany the full text on both MS-DOS and Macintosh versions. It does not include sound, according to Grolier, because the special audio processing card required for the standard IBM PC is beyond the minimal hardware configurations owned by most of its customers.

The system includes hypertext links, note pad features, and full-text searching. Articles are listed in order by number of word occurrences. Grolier is already planning a fourth edition that will include a dynamic timeline, see also references, maps, audio, and more photographs. It is also developing a CD-I product for the home consumer market. (CD-I [compact disk-interactive] is the multimedia standard developed by Philips that will use a player connected to a television set for interactive CD products aimed at a mass, entertainment-oriented market.)

The price for the 1990 edition of the Grolier Electronic Encyclopedia is the same as 1988—\$395 or \$125 for updates. Contact Grolier Electronic Publishing, Inc., Sherman Tpk., Danbury, CT 06816; 800-356-6690.

National Geographic Mammals

No product at the Microsoft conference was more impressive than the forthcoming *Mammals: A Multimedia Encyclopedia* from National Geographic. It is an adaptation of a two-volume set of print books that sold over 500,000 copies in the 1980s. The CD-ROM mix of full-color photographs, text, motion, and sound

makes this specialized encyclopedia noteworthy. For a price of under \$100 every library that has CD-ROM equipment and serves patrons that fit the 12-year-old target audience should buy one when it becomes available in September 1990. An IBM PS/2 Model 25 and up with PS/2 Speech Adaptor, CD-ROM drive, and mouse is required. Testing on other IBM computers is taking place now.

Users can explore the encyclopedia in a variety of ways. First-time users may choose to go on the tour, really a tutorial of how to use the encyclopedia. There is a game that can be played at any time. If users know what animal they want to learn about they will likely go to the Mammals A-Z section that presents an alphabetical list of mammals to select. Within each article there are links to further information, glossary definitions with spoken pronunciations, and diagrams of animal families. In addition to fact boxes and essays in each article, this encyclopedia includes 800 color photographs, maps, animal vocalizations, and 25 short movie clips from National Geographic TV specials. The motion pictures are a bit crude, but require no special equipment.

National Geographic plans to develop an entire line of multimedia CD-ROM products. Each will cover a relatively narrow subject in depth and each will showcase the high-quality photographs for which National Geographic is famous. Contact Betty Kotcher, Educational Media Div., National Geographic Society, Washington, DC 20036; 202-775-6583.

Birds of America

Another attractive animal product is the Audubon Birds of America from CMC ReSearch, Inc. At \$99 it is another sign of the trend toward affordable CD-ROM publications. Birds of America contains Audubon's original 1840 first edition six-volume octavo set with all of the full-color lithographs and full text. In addition, bird calls have been added for 150 of the 500 birds. Calls are available for all state birds, national birds, and some unique birds such as the now extinct ivory billed woodpecker.

Birds of America uses the same software as all of the other DiscPassage CD products from CMC ReSearch. (Libraries may also be interested in its Complete Works of Shakespeare or complete Sherlock Holmes, each under \$100.) The text

can be searched in many ways so a user can retrieve, for example, all of the birds found in a certain region that are in a specified family or have certain characteristics. Contact CMC ReSearch, Inc., 7150 SW Hampton, Portland, OR 97223; 800-262-7668.

Whole Earth Catalog

The Electronic Whole Earth Catalog was a honorable mention winner in the Philips/Du Pont 1990 contest and the only product mentioned here that is available only for the Macintosh. Like the print *Whole Earth Catalog*, the electronic version is a mixed bag of useful information. It includes over 3500 entries, each of which includes a review, excerpts, and access information for products and services. A Table of Contents screen lets users click on 12 subject areas ("whole systems," community, place, household, craft, livelihood, health, nomadics, communications, media, learning, music) from which they can go to specific entries.

The Electronic Whole Earth Catalog includes hypertext links between entries (it runs under HyperCard) and includes over 3000 graphics, audio selections for over 700 records or tapes, and all text portions of the print version. The product description includes a cautionary "Note to Educators" that "The Electronic Whole Earth Catalog maintains the integrity of the original printed version. Some subject matter may be viewed as controversial or mature in theme. Teacher discretion is suggested." A unique print product is even livelier with the enhancements multimedia CD-ROM brings. The price is \$149.95 from Broderbund Software, 17 Paul Dr., San Rafael, CA 94903-2101; 800-521-6263. It requires a Mac Plus/SE/II and an AppleCD SC.

Bill Gates told the attendees at the Microsoft conference that multimedia in "making the PC more personal . . . is the future of CD-ROM." By incorporating images, animation, and audio with text the "emotional and aesthetic quality of using a PC" is enhanced, as is "creativity and individual knowledge." Certainly in libraries, where the bulk of the installed CD-ROM drives are today, the best of the multimedia CD-ROM products will receive an immediate and enthusiastic welcome as CD-ROM becomes a truly innovative publication medium.

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