

# State-of-the-Art Multimedia in 1996: The “Big Four” General Encyclopedias on CD-ROM

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by  
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*Editor's Note: This month, for the Multimedia/CD-ROM issue of Computers in Libraries, we asked our CIL CD-ROM Currents columnist Péter Jacsó to do a full-fledged feature in place of his usual bimonthly column. Péter has taken an exhaustive look at the good—and the not-so-good—in Compton's Interactive Encyclopedia, 1996 Edition; Microsoft Encarta 96 Encyclopedia; The 1996 Grolier Multimedia Encyclopedia; and World Book Multimedia Encyclopedia 1996.*

The issue of when the actual CD-ROMs are released is also less important because of the trend toward online updating. *Compton's*, *Encarta*, and *Grolier*—but not *World Book*—now have access to online sources for updates. But there are significant differences in how the updates are integrated into the CD-ROM products, both in terms of content and search software.

As the theme of this issue of *Computers in Libraries* is multimedia, I'll focus particularly on the multimedia features of these encyclopedias—their quantity, quality, accessibility, and playability, while also discussing each product's novel features and most important software strengths and weaknesses.

## ***Compton's Interactive Encyclopedia, 1996 Edition***

There are some significant changes in the 1996 edition of *Compton's*, mostly for the better. But many shortcomings have not been fixed. The publisher claims that there are nearly 1,700 revised and more than 500 new articles, three new full-motion videos, and two new slide shows. Regarding pictures—which I have always considered a weak point in *Compton's*—there is no mention of new or revised ones. Two years ago, the number of pictures was drastically reduced, with picture editors removing thousands. But there are still far too many inadequate, low-quality graphics and photos (such as the black-

Given the hot competition in their market, one thing you can count on every year now is that the four major general CD-ROM encyclopedia publishers will update their products. Way back in July last summer, *Compton's* was the first to appear in an updated version with 1996 on its label. *World Book 1996 Edition* will be out by the time you read this (I reviewed a beta version), some time after *Microsoft Encarta 96* and *The 1996 Grolier Multimedia Encyclopedia*.

The differences in the release dates do not really matter that much anymore. The important thing is how current the articles are in general, especially those covering rapidly changing topics such as geopolitics or telecommunications. For subjects like these, it would be an excellent idea for the encyclopedia articles to carry the dates of both the original entry and any update. This would be a nice overall touch and quite simple to implement.

▼  
**Compton's,  
Microsoft Encarta,  
Grolier, and World  
Book keep getting  
better, but . . .**

and-white photos of a beach scene in Sydney, Australia, and of a bird of paradise, both crying out for color). In addition, the number of pictures is diluted by redundant graphics. The mediocre drawing of a koala carrying its baby (Figure 1a) is hardly necessary when there is a very good photo of—a koala carrying its baby (Figure 1b). Many of the pictures and all of the drawings get unacceptably pixilated when you use the Size button. Less would have been more.

The same can be said about the audio components of *Compton's*. It brags of having 14 hours of sound, but the majority of sound bites are in MIDI, not WAV, format. The difference between Beethoven's Symphony No. 5 in C minor in WAV and in MIDI is tantamount to the difference between a

genuine Cartier stone and a paste knockoff.

### The Editing Room

These weak spots in *Compton's* are somewhat compensated for by its excellent multimedia Editing Room section, which earned a well-deserved prominent spot on the main path bar in the 1996 edition. The Editing Room allows a user to create multimedia presentations combining any articles, pictures, and animations in the encyclopedia, enhanced with the user's own text and even narration.

Completely new is the Explore feature, which presents six learning environments (Grandma's Attic, Compton's Newsroom, Madcap Music, etc.) with

clickable objects linked to text and multimedia elements (Figure 2). The Madcap Music Store, for example, includes musical instruments, a bust of a composer, a picture of an orchestra, and some maps. When you click on them, random music-related entries appear: an article about, say, the violin, with a picture, a short sound bite, and a few tunes from Mozart's "Eine Kleine Nachtmusik" or a slide show depicting how an orchestra is organized. Clicking on a map might bring forth the sounds of some regional music of South America. Click a second time on one of the above icons and different music-related multimedia elements will play. The idea was obviously borrowed from the popular Living Books series (*Arthur's Teacher Trouble*, *Just Grandma and Me*, etc.), originally

Figures 1-3, from *Compton's Interactive Encyclopedia, 1996 Edition*



Figures 1a and 1b: Redundant koalas

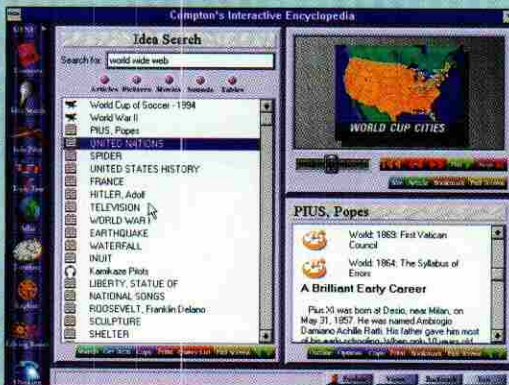
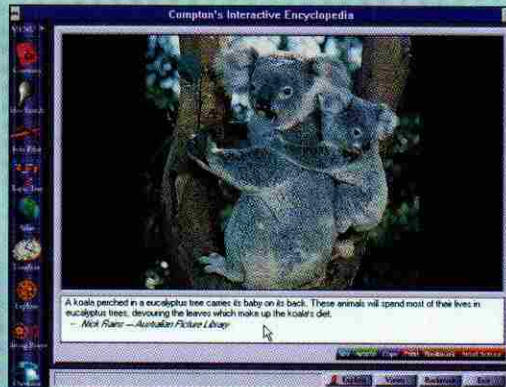


Figure 3: SmarTrieve's not-so-smart retrievals



Figure 2: Madcap Music Store

from Broderbund, but that doesn't decrease its edutainment value.

On the subject of maps, the publisher claims that 59 new ones were added and 39 were revised. But maps are still the most obvious weak point in the encyclopedia. Many of them are sparsely marked, indicating only national capitals. For Hungary, the only city that appears is Budapest, and while the Danube River—the second largest in Europe—is indicated, its name is not displayed. Most other country maps are similarly shallow. The publisher may have sensed the inferiority of the *Compton's* atlas, as it bundled into the 1996 package the *Small Blue Planet* electronic atlas. No matter how good *Small Blue Planet* is, it is just an afterthought that's not at all integrated into the encyclopedia.

*Compton's* slide shows and animations are good but very short compared to those of the other encyclopedias. The few videos are not full motion as claimed in the press releases. On the plus side, a unique asset of this encyclopedia is the presence of a dictionary and a thesaurus, both well managed by the software. The audio-assisted help is also attractive and fits well in the multimedia approach.

### The Search Engine That Can't Say No

On the retrieval engine front, the Compton's New Media SmarTrieve software all too often continues to retrieve articles dumbly. The underlying problem is that the software just can't say no to a query. If there is no match in a query for, say, basketball player David Robinson, the software throws at you all the items that include either David or Robinson, e.g. the articles about Johann Wyss (who wrote *Swiss Family Robinson*), Camp David, Star of David, and, if that doesn't puzzle you enough, even the national anthem of Swaziland because its composer's name is David Rycoft. A search for World Wide Web (also World-Wide Web and Worldwide Web) retrieved nothing but 100 completely irrelevant items, from World Cup of Soccer and World War II to Pope Pius XI, Hitler, Chicago, and kamikaze pilots. (See Figure 3, previous page.) The more any of the search terms were included in an article, the higher the article ranked.

Even if there is a good match or two, SmarTrieve can't simply content itself with presenting them. It keeps on running, much as Forrest Gump did, long after the final touchdown. The search

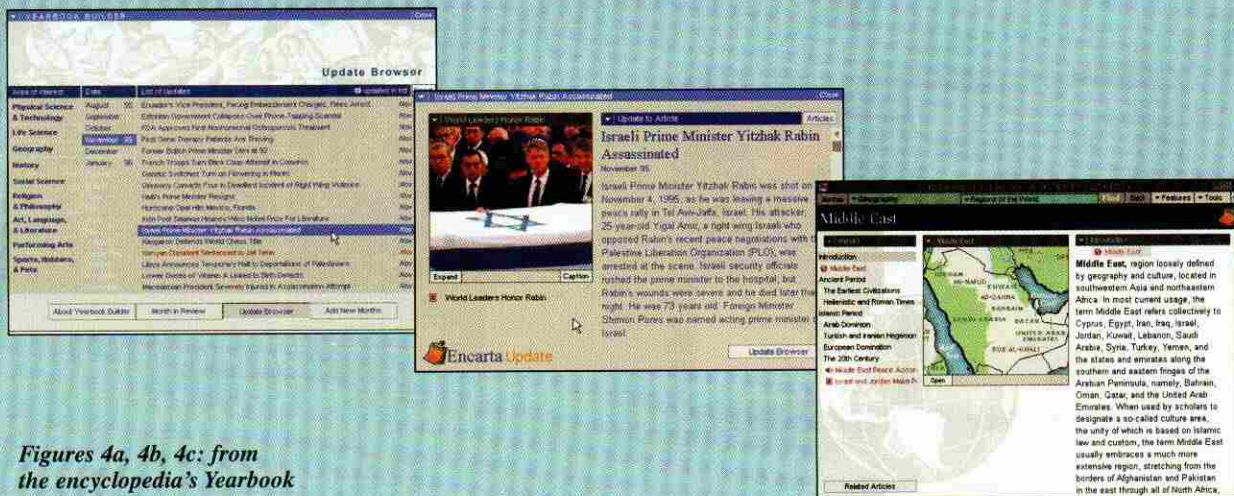
"Michael Jordan" brings up three or four relevant articles but then runs amok, listing all articles that include Jordan (as in the country and the river), and all those that are about or even just mention someone named Michael. Thank heavens the software limits hits to 100. This inane interpretation of queries not only yields irrelevant articles and confuses the user but makes all the searches excruciatingly slow. The lack of Boolean and proximity operations is unforgivable, given the poor capabilities of SmarTrieve.

### Online Connections

The connection to *Compton's Living Encyclopedia (CLE)*, the online product on America Online, is nicely implemented, although I was amazed that the software assumes (beyond such typical things as dialing 1 for long distance or using the COM2 port for the modem) that you have a 56 KB/sec connection. Hello folks, this is the U.S., it's 1996, and *Compton's* users with an ISDN connection can be probably counted on one hand.

Ironically, the AOL search software, which features Boolean, proximity, and positional operators, is far smarter than SmarTrieve, which lacks all these

Figures 4a-c, from *Microsoft Encarta 96 Encyclopedia*



Figures 4a, 4b, 4c: from the encyclopedia's Yearbook

options. AOL retrieves eight articles for that search about Michael Jordan, and seven of them are highly relevant. *CLE* is a good tool to search for current information about a subject, but it is not multimedia and is not integrated into the CD-ROM encyclopedia content as is the case with *Microsoft Encarta*. Besides, there are online charges to contend with.

## Microsoft Encarta 96 Encyclopedia

There are few superlatives I could add to those I used in a review of the 1995 edition of *Encarta* in *Information Today*, Inc.'s May/June 1995 *Link-Up* ("elegant, comprehensible, consistent, and intuitive design; perfect model for multisensory interface; textbook example for multimedia design concepts and integration"). Microsoft, however, did add new content and features to its '96 encyclopedia. According to the press guide, 10,000 articles have been reviewed/updated, and 300 articles, nine video clips, 300 photos and illustrations, 64 geographical and city maps, and two interactive programs have been added. Even the name has been "enhanced" to *Encarta Encyclopedia* (to distinguish it from the separate *Encarta World Atlas* product).

*Encarta's* multimedia elements are generally top notch, except for some silent animations and the occasional choppy, sometimes even irrelevant videos. With the acquisition of the Bettmann photo archive collection by Corbis (a lesser-known company founded by Bill Gates), Microsoft has an incomparable pool of images to choose from for illustrations, and it shows in all Microsoft's products.

### The Software

On the software front, the print and copy functions have been improved, allowing the selection of marked parts of an article. But *Encarta* still can't beat *World Book* when it comes to printing options. I'd like to see an option to print article outlines as well as related-items lists. Nevertheless, it is notable in

*Encarta* that both pictures and sounds can be copied and that pictures can be also printed.

The only serious deficiency in *Encarta* is that the hyperlinks between articles are still not complete. While, for example, there are articles with images about the African rhinoceros, the peregrine falcon, and the whooping crane, the article about endangered species that mentions all these creatures does not

display their names in red, the color used to indicate hyperlinks. Nor are they listed in the related-articles list in the endangered species entry. This should be corrected and users should be informed through *Encarta's* magnificent online update system.

The big news in *Encarta's* software is the superb integration of the CD-ROM content with monthly updates of information. (See Figures 4a, 4b, and

Figures 5-7, from  
*The 1996 Grolier Multimedia Encyclopedia*

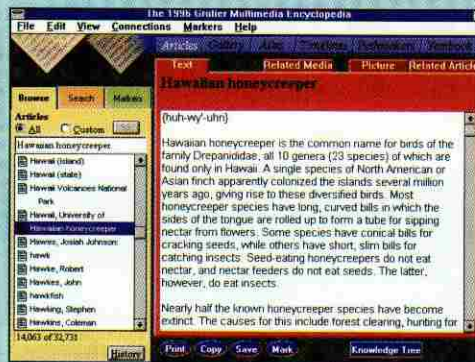
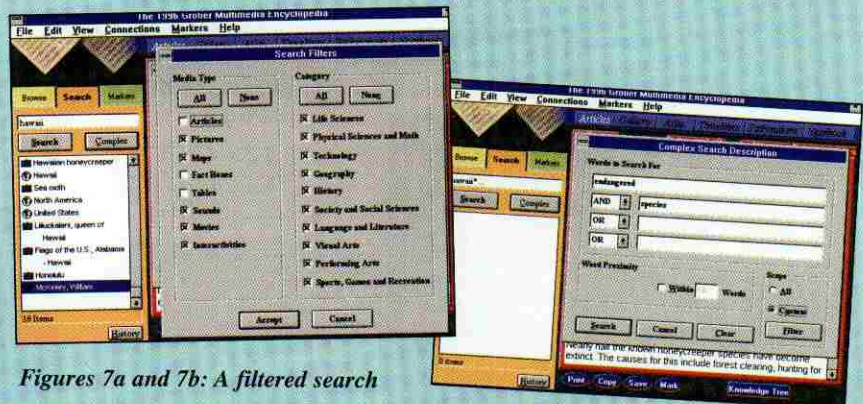
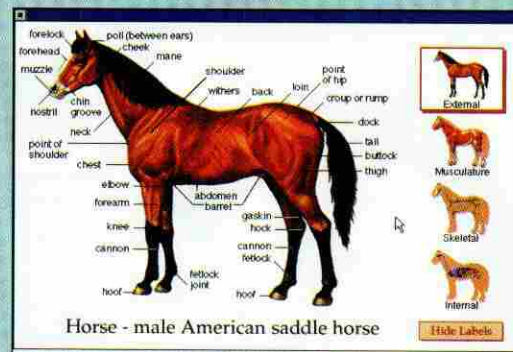


Figure 5: Grolier's new main menu

Figure 6: The ins and outs of a horse



Figures 7a and 7b: A filtered search

4c, page 28.) The Yearbook Builder feature allows you to review online the key events since the release of the CD-ROM encyclopedia by month, day, and major event category. You may choose any or all of the monthly updates and download them to your hard disk through the Internet or through Microsoft Network. There is no charge for this nifty service until the end of 1996.

When you download updates, behind the scenes *Encarta* creates a link between the downloaded items and related articles in the encyclopedia. The update item itself even lists which articles are affected by the update. If any of those comes up in response to a search, it is marked with a clipboard symbol. For example, the update item about the assassination of Yitzhak Rabin relates not only to his biography but also to the

articles about Israel, the Middle East, and Shimon Peres. Whenever these articles are displayed, the clipboard symbol in the top right corner alerts the user to the existence of an update. Other updates related to the article being displayed may be also listed. I don't think this could get any better. And these updates are really up-to-date. The November 1995 update included a news item about Rabin's assassination *the day after it happened*.

The monthly updates form a yearbook that is perfectly integrated with relevant articles on the CD (whose contents will be included in the next edition of *Encarta* this fall). To further sweeten the deal, Microsoft guarantees a \$29.95 price for the next CD-ROM edition. It is the best thing your \$30 can buy.

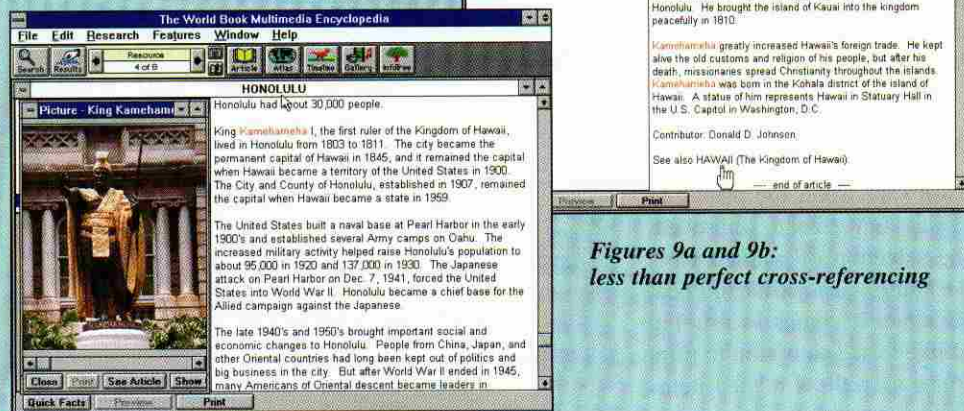
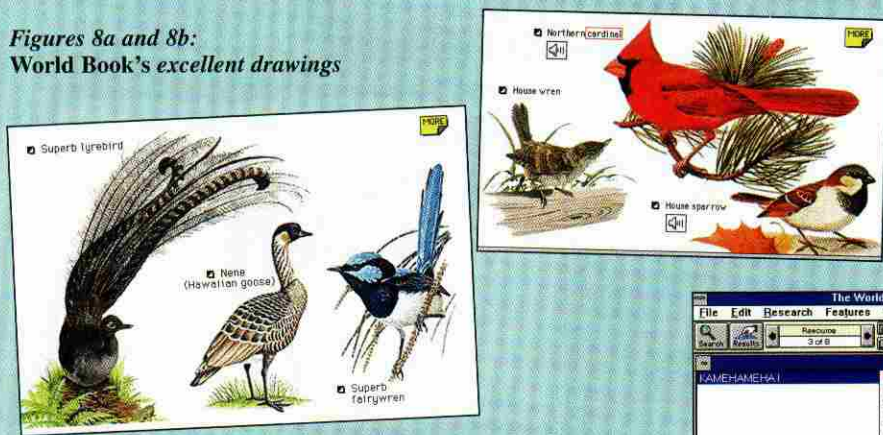
## The 1996 Grolier Multimedia Encyclopedia

This is the eighth edition of the *Grolier* electronic encyclopedia, which was the first to be published on CD-ROM. While that first one was text-only, it was a breakthrough in 1986. The publisher has taken it a long way since that time, always innovating along the way. The 1996 edition is no exception. Although I am not enchanted by the design and artistic implementation of the new main menu (Figure 5, previous page), which lacks the elegance of the product's excellent new Help subsystem, there are many multimedia features I am pleased with.

The publisher's press release claims that 1,200 new articles have been added and over 6,000 revised. Further, music

Figures 8-9, from *World Book Multimedia Encyclopedia 1996*

Figures 8a and 8b:  
World Book's excellent drawings



Figures 9a and 9b:  
less than perfect cross-referencing

files have been almost doubled to a total of 14 hours. This sounds good but is less melodic when you realize that the majority of the new music is in MIDI format: 190 classical and folk selections and, yes, 150 national anthems. A unique feature is that *Grolier* includes translations of the lyrics for most of the anthems.

The producers must have felt obliged to respond in kind to the *Compton's* sales pitch touting 14 hours of music. I don't blame them; you cannot fight these marketing wars with a noble attitude of sticking to high quality. Luckily, the 1996 *Grolier* added nearly 60 digital excerpts of classical music plus 38 American and world ethnic music clips in WAV format. For pleasure, listen to the sound bites of "Amazing Grace," "Yankee Doodle," "Habanera," and Beethoven's Symphonies No. 5 and No. 9. The producers could have spared us the pain of listening to MIDI renderings of "We Shall Overcome," "Frankie and Johnny," and hundreds of other pieces by using different symbols for the two types of music, as *Compton's* does.

### Cartography

Equally welcome is the significant increase in maps, with almost 100 new ones. Especially good are the informative exploration maps that depict the trails of famous expeditions, as well as the various maps of population, vegetation, and climatic zones. Printed out, however, the maps are not up to my expectations. They look as if they had been printed on an old dot-matrix printer even when printed on a decent laser printer.

On the subject of support, unfortunately, unless things have changed, you needn't bother calling the toll free technical support number. I did, to inquire about the poor-quality map printouts, and was led through a series of menus to the Printer Information option only to discover after pressing the umpteenth button that there is no information for printer problems. It sounded more like a prank than a *Grolier* service. Live operator support, with its extremely restricted availability, is no better.

### Slide Shows

Another of *Grolier's* fortes, the slide shows about major cultural, political, military, artistic, and scientific events, has been strengthened. The encyclopedia calls these movies, but they are actually slide shows and far better than the slide shows in the other encyclopedias. They last for 6-10 minutes and have excellent narration. *Grolier's* animations have been the best and they just got better.

The most touted new multimedia feature, the set of Interactivities is remarkable, even though it may have been modeled on *Encarta's* Interactivities. It is quite effective to be able to see, at the click of a mouse button, the external, then the muscular, the skeletal, and the internal anatomical features of a dog, a fish, a lion, and a horse (Figure 6, page 29), or to view an Indianapolis 500 race car with or without the legend labels. The sign language demonstration and practice game is also impressive, and the animation about animation is an excellent example of the best use of multimedia.

On the negative side, there are still too many less than perfect black-and-white photos that I wish the publisher would replace. While many topics are richly illustrated by pictures, there are stunning gaps. For example, none of the Seven Wonders of the World is represented in pictures.

### The Software

On the software front, it is good to see such features as direct links from articles to the appropriate position in the hierarchy of the Knowledge Tree. For example, you can link from an article on Olympia (Greece) to the list of other ancient cities in the Knowledge Tree, then navigate up to the branch on Ancient and Medieval History. I was also pleased to see that the Related Concept Search was eliminated. Too often, it yielded anything but related items, confusing the user much as *Compton's* SmarTrieve still does. The Advanced Search features in *Grolier* have been vastly expanded with filters

by topic categories and media types (Figures 7a and 7b, page 29).

Again on the down side, I find it inconvenient that search terms are not highlighted in the resulting articles to let the user quickly locate the section or sentence of interest.

The online connection in *Grolier* is not as useful as that in *Compton's*, and it doesn't hold the candle to the one in *Encarta*. About 12,000 articles have links to one or more CompuServe forums or databases, and a click takes you there. (You must be a CompuServe subscriber.) It is not that different from navigating CompuServe on your own, but newcomers may benefit from the extra guidance they gain by entering the CompuServe realm through the CD-ROM encyclopedia. The limited search capability of the CompuServe search engine is disappointing, however. In the online version of the *Grolier Encyclopedia*, only exact article title searches yield results.

All in all, the nifty new features in *Grolier* far outweigh the few bad ones. The upgrade, which includes an additional CD containing the Maegh art collection plus 10 free hours of time on CompuServe, is definitely worth it.

## World Book Multimedia Encyclopedia 1996

*World Book Multimedia Encyclopedia 1996* hadn't shipped in time for my deadline. I looked at the beta version, so some of the issues I raise may be solved in the final, shipping version. *World Book* may have the fewest multimedia elements, but whatever it has in paintings, drawings, pictures, maps, sounds, and animation is first class. Its video is better than in most encyclopedias as well, particularly because of the excellent narration.

According to my calculations, in the 1996 edition of *World Book* there are about 110 sound bites (of classical music pieces, musical instruments, and animal sounds), 270 maps, 27 animations, and 29 video clips. I wasn't able to determine the total number of pic-

tures, but it doesn't matter as that number alone would be misleading. There are many full-screen pictures that show three or four animals, birds, or musical instruments. To be fair, each of these should be counted separately, and even that figure ignores the very fine detail and quality of the drawings (Figures 8a and 8b, page 30).

*World Book* could easily have increased its sound collection by throwing in poor-quality MIDI versions of national anthems of 200 countries as all the other encyclopedias have now done, along with mediocre-quality sound bites of classical music. It chose not to do so and offers only higher-quality WAV files. Animations, all of them narrated, are substantial, with some running for two minutes. As an animation plays, a

progress bar and a start/stop button are available so you can, for example, replay a segment.

### The Software

The *World Book* software is very good, although there are a few unnecessary limitations and glitches. If you really need an exhaustive result list of more than 100 items, you may be in trouble. Only the first 100 items are displayed (ordered either alphabetically or by keyword-frequency). This means relevant articles that are at the end of the alphabet and include the search term only once might not show up. The article on "ukulele" won't make the top-100 list when you search for articles that include the word "Hawaii," for example.

Another problem is that neither the article nor the result list consistently indicate the availability of relevant multimedia elements. Nor do articles always give you adequate "See Also" references to related articles with pictures. For example, the article about King Kamehameha has a reference to the article about Hawaii, but not to the article about Honolulu, although it also has a very good picture of his statue as well as a paragraph about him (Figures 9a and 9b, page 30).

One more problem is that in the Multimedia Gallery, featured people are sorted by their first name. So, for example, Buster Keaton precedes Charles Dickens, who is followed by Chuck Berry. This is not up to the standard of *World Book*, which is a prime product in all other respects. All these may be corrected by the time the final version has shipped. Too bad that *World Book* is not bundled with PCs as the other three encyclopedias covered here are and that it still costs twice as much. More libraries and families need to know about this encyclopedia.

## The Publishers, Prices, and Platforms

These encyclopedias are now irresistibly priced. When *Compton's* came on the market in 1988, it cost \$895 as it was the only multimedia encyclopedia game in town. When competitors first showed up a few years ago, the prices began to come down but still ranged between \$400 and \$500. Then *Compton's* leapfrogged the competition by offering its encyclopedia for \$129, and the price war is still on.

Here are list prices and contacts for the publishers, including Web URLs where available. We urge you to seek out the lower "street prices" where they exist, which you'll find at computer retail stores and, especially, mail order companies. This does not apply to *World Book*, however, as it is still only sold directly by the publisher.

The encyclopedias are available for both Windows and Macintosh with two exceptions: At press time, no Macintosh version was yet available for the 1996 *Compton's*, and *World Book* was only in Windows beta testing. None requires—but all run under—Windows 95.

- *Compton's Interactive Encyclopedia, 1996 Edition*, from SoftKey, Cambridge, MA. 800/227-5609. \$37 list price (best street price is equivalent).
- *Microsoft Encarta 96 Encyclopedia*, from Microsoft, Redmond, WA. 800/426-9400; <http://www.microsoft.com>. \$54.95 list price (\$35 approximate best street price).
- *The 1996 Grolier Multimedia Encyclopedia*, from Grolier Interactive Inc., Danbury, CT. 800/285-4534; <http://www.grolier.com>. \$59.95 list price (\$35 approximate best street price).
- *World Book Multimedia Encyclopedia 1996*, from World Book Educational Products, Elk Grove Village, IL. 800/621-8202. \$99 list price.

## Choosing Among the Four

While multimedia elements and software capabilities are prominent features of these encyclopedias, you should not forget about the most important component, the underlying text. Take some samples from each of the encyclopedias and analyze them for accuracy, completeness, objectivity, and ease of reading. The encyclopedias differ widely and are appropriate for different age groups. If you want some help, read the revised edition of *Kister's Best Encyclopedias: A Comparative Guide to General and Specialized Encyclopedias* (Phoenix: Oryx Press, 1994), from the author who knows the most about the textual content of these products. ▲

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