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The Future of Interactive Media

This article would have been called "The Future of Multimedia" if I had not just vowed to strike the word *multimedia* from my vocabulary. *Multimedia* is a ridiculous word. It's the plural of a plural. *Media* means more than one medium (of expression) and adding the prefix *multi* is redundant. Some developers pronounce the word, *muddymedia* to indicate that no one knows what it means. I've always suspected that salesmen favor the prefix *multi* because it suggests that you're going to have to buy more stuff to do whatever it is multimedia is supposed to do. The alternative term, *interactive media*, makes it clear just what is unique about this new medium. You don't just sit back and watch your computer; you interact with it. In some cases, however, it is more accurate to say, it interacts with you.

With *unconscious interactivity* it's not clear whether the user is effortlessly controlling the computer or the computer is effortlessly controlling the user. Imagine a computer that monitors your eyes as you watch a television program. By noting how much the pupil of your eye dilates and what section of the screen you're looking at the computer can tell what excites you and what doesn't. Brian Moriarty of *LucasFilm Games*, is one of the programmers striving to make unconscious interactivity a reality. He explains in an article published in the *San Francisco Examiner's* Sunday magazine that in the future an interactive commercial will know what part of the screen excites you, "It notices that during the commercial for floor wax you're most interested in the lady's blouse, OK? It immediately zooms in on the day and gives you a nice close-up, so she can hold up the product..."

No doubt there would be men in the commercials for those who desire men. The same movie could contain "G," "PG-13," "R," and "XXX" rated possibilities, and every viewer would only see what he or she secretly wanted to see. If messages of any social or political importance secretly irritated a politician the film he watched would contain none of that. If his wife longed for female or minority protagonists that is the kind of heroine she would see save the earth from certain destruction. Of course, these new personal television-like computers will probably suffer a system crash if our couple snuggles up to watch a show together. If the problem of multiple users is solved will this be the ultimate in transparent user interfaces, or just a new way to bake couch potatoes?

Alan Kay, who helped develop at *Xerox* the desktop metaphor on which the Macintosh interface is based, and at *MIT* pioneered the use of software agents that interact with us when he developed *NewsPeek*, clarified for me the delusion and the dream of the new media in a talk at the San Francisco MacWorld Exposition. (*NewsPeek* scans the world's press for stories that interest the user, as well as film clips of favorite sporting and cultural events, and develops reports on the health and activities of his family. It then presents the resulting interactive program for him to browse while he has his morning coffee.) Alan Kay's argues that if the model we base our computer presentations on is television, then, no matter how sophisticated they get they will just be interactive idiot boxes.

An excellent example of television-based interactive media is the recent ABC Interactive laserdisk on the Arab Israeli conflict. ABC gives the student gets a disk full of sound bytes and snippets of interviews he can mix together into a dramatic montage. The result, almost inevitably, is a presentation "full of sound and fury, signifying nothing." So what model should we base our interactive media on? How do we put people in control?

Alan Kay based his model for the ideal interactive media on the educational psychologist Piaget's studies of human development. Piaget said that as children develop they pass through three distinct ways of understanding the world. Briefly, these three modes of learning are seeing, doing and thinking.

In the seeing or visual stage, a child that watches you pour all the water out of a wide glass beaker into a tall thin glass beaker will tell you that there is more water in the tall glass beaker because the visual understanding dominates his mind. The child's visual phase is full of such magical transformations. However, the over reliance on the visual in TV news can delude even grown-ups into believing that to see the world is to comprehend it.

In the doing or interactive stage, a child will describe something as abstract as a circle with a marvelously physical description like, "I go a little, then I turn a little, then I go a little...."

The most sophisticated way of understanding the world, the "thinking stage," is called the symbolic view because it involves the use of the words or mathematical symbols to represent and manipulate things. Piaget noticed that great mathematicians visualized formulas and spoke of feeling them in their bones, but for poor students the symbolic language of ideas was very abstract and vague.

We should not forget that we invented computers to calculate numbers, and the concept of "personal computers" developed when we used them to process words. They are our finest tools for organizing the symbols that constitute thought. Alan Kay helped develop the visual and interactive computer interface to integrate for all of us the symbolic worlds of math and language with the visual and interactive.

The model for the ideal interactive media is not television or the movies, but the Macintosh itself. Instead of dreaming about how great interactive media is going to be when we can utilize more video and better special effects, we should build educational software that integrates images, interactive models and thought provoking text, and that blends illustrated databases and spreadsheets, unique word processors, and those "high intensity interactive activities" known as computer games into educational entertainment. Of course, I'd also like a little video and Dolby Surround Sound™ to start things off with a bang.

Inspired by Alan Kay's talk and Bill Atkinson's *HyperCard*, I set out to build, with fellow Mac-fanatic, Philip A. Mohr Jr., one of the first of these interactive entertainments. It is not the fulfillment of the dream sketched out above, but it is a start. The project is called *If Monks had Macs...*

[Optional picture of cloister—screen dump of opening of *Imitatio Christi*, (hold down the option key when opening stack, so the fountain will be turned off, and you can “Export Paint”)—goes here. I think it looks best reduced 50%, especially the way PageMaker reduces it proportional to 72 dpi to 300 dpi ratio.]

If Monks had Macs... is a set of HyperCard stacks that allows you to explore the library of a medieval monastery. When you start the program, you find yourself at a desk before an open window that looks onto the monastery cloister. You hear the monks finish the last chorus of a Gregorian chant. The conclusion of the monks sonorous chant drifts across the cloister and mixes with the fountain's delightful patter. You can hear, along with the fountain, a bird or two chirping its own song. If you tarry long enough, you'll hear the peal of the monastery bells. It's not Dolby Surround Sound™, but it has the illusion of reality. No matter how long you gaze into the cloister you never detect a pattern to the birds, bells and the chant because they're continually being mixed according to life-like probabilities. With the click of a mouse, you can open the first computerized edition of *The Imitation of Christ*, or browse the library shelves. A sophisticated self-indexing journal is linked to *The Imitation of Christ* so that those so inclined can examine their own lives. It would be amusing to have the computer study our every eye movement and get to know and shape our secret dreams with unconscious interactivity. It would be of more lasting value to get to know and direct those dreams ourselves with the conscious interactivity of a journal.

On the shelves of the monastery library you'll find "books" from the past 800 years. Among these books you can find a graphic adventure game about a monk's trek through the medieval wilderness to the library, profusely illustrated interactive investigations of quantum physics and evolution, a database of dramatic documents about German students resisting the Nazis, the monastery jukebox, and more.

There is a case study in the new *McGraw-Hill Hypertext/Hypermedia Handbook* that explains how *Monks* illustrates the theories I've outlined above. However, *If Monks had Macs...* is a gift to the Macintosh community, and it would be cheaper, more fun to visit the monastery library yourself. Since I fear that most of you will assume that if it is free it can't be any good, I'll use that as an excuse to tell you that *MacUser* called *Monks*: "one of the most beautiful and elaborate projects in HyperCard. While some people might see this as religious... others will see it as a powerful and positive example of *the medium is the message*." You can get *Monks* compressed onto 3 disks for a \$9 distribution charge from the Berkeley Mac Users Group, if you send a check for \$9 with a request for *If Monks had Macs...*

BMUG PD library
1442A Walnut Street #62
Berkeley, CA 94709
(415) 549-BMUG

BMUG's normal low charge for 3 disks would be \$12, but we arranged the lowest possible handling, postage and materials charge with BMUG. *If Monks had Macs...* is EveryWare. If you like it enough to keep it for yourself, give it to someone else. [You can add or replace this BMUG stuff with a note that it is available from your MUG as we discussed, Brian.]

My next project is an educational-entertainment centered on Henry David Thoreau's *Walden*. It will include an innovative graphic adventure game, a wild, uninhibited examination of Thoreau and his world, the complete annotated text (with research features) of *Walden*, and *Civil Disobedience*, a much improved journal aimed at helping readers with their own writing and living, and more.

So what is the future of interactive media? I like the way Alan Kay answers this question. He quotes Marshal McLuhan, "The best way to predict the future, is to invent it."