

Computer Briefs

Welcome to the New Millennium

A NEW ERA

If you are reading this column, you obviously have survived the Y2K problem and have greeted the new millennium. What will the new millennium be like? How will it be different?

Obviously, the change from December 31, 1999 to January 1, 2000 will not signal an overnight change in society or technology. By the calendar, at least, we have reached the end of an era and started a new one. Have we reached a new beginning in the technology era as well?

Technology is changing very rapidly. According to Moore's Law, the speed of computers will double every 18 months. This means that the current model of anything containing some form of computer chip (it's hard to find an electronic device that doesn't) will be "old and obsolete" in less than 6 months. This poses an interesting problem for devices we use at home but is a real dilemma for devices we use in our professional practice. Yes, the new device may build greater efficiency into our practice, thereby containing cost. Can the cost of the new device, however, be amortized over a long enough period to make that cost savings real?

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DEFINING TECHNOLOGICAL OBSOLESCENCE

So, one of the characteristics of the beginning of the 3rd millennium is what engineers call "life cycle management." We used to use something until it was broken or worn out. Today, a device becomes technologically obsolete long before it breaks or wears out. In our private lives, the point when a device reaches technological obsolescence depends on what you mean by obsolete. New car models are introduced every year. That doesn't make last year's model obsolete, unless the new model contains a feature which you, the user, must absolutely have. So, knowing when something is obsolete would appear to be a personal judgment.

However, this may not be true in our professional lives. A device may become obsolete, not because it is no longer medically useful, but because it does not live up to the expectations of our patients. Patient perception of medical technology may have an increasing yet unintentional influence on health care costs. One thing is certain: in the new millennium, most devices, for one reason or another, will be declared obsolete well before they break.

A FUTURIST'S VISION

About 25 years ago, I attended a talk given by a futurist. He predicted that things that are wired will become wireless and things that are wireless will become wired. In successful futurist fashion, he never really explained with definite examples exactly what he meant. For some reason, I have thought about his prediction over the years. My initial thought was that he was talking about portability. Devices that needed to be plugged into a power source would run on batteries, and devices that run on batteries would need to be plugged in. But as the years went by, I could never find any evidence of the prediction's validity.

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As we began the decade of the 1990s, people began talking about the "Information Age," and it occurred to me that the futurist was talking about the routing and transmission of information, rather than the source of power. (Just a thought, but in the Information Age, the control of information *is* power.)

A common technology that is demonstrating the movement from wireless data flow to wired data flow is television. The data of television are the programs that are classically distributed "over the airwaves." However, people usually watch television in a fixed location. So, cable television, in which the data are delivered by wire, fits very naturally into the way most of us watch television.

DIGITAL CELLULAR TECHNOLOGY AND MEDICAL PRACTICES

In the other direction, from wired to wireless, is the telephone. One always heard the complaint, you can never find a telephone when you need one. Telephones classically transfer information by wire. The 1990s saw the introduction of the wireless telephone for limited home and office use and then the wireless cellular telephone for complete untethered portability. The cellular phone, especially the digital cellular phone, is revolutionizing personal communicativity. In technically advanced countries, it has made direct personal communications easy and instantaneous. In developing nations, it has made telephone communications possible without the expense of building the previously required wired infrastructure.

Wireless digital cellular technology recently has been extended to allow wireless access to the public Internet or the private intranets like hospital or office information systems. Combination cellular phone/personal data organizers (PDAs) are just being introduced and will play a prominent role in the new millennium. They will make information instantly available, any time, any place, and literally at your fingertips. This will surely effect your practice. You could instantly be in voice contact whenever you are needed. In addition, your patients' records will be available to you at any time and anywhere you need them. So, too, will the entire body of medical literature.

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CONNECTIVITY: THE STANDARD OR PERSONAL CHOICE?

The question in this millennium will be how much connectivity will be expected in the practice of medicine. Will you be able to choose your mode of practice using communications technology as dictated by your own professional judgment, or will such instant connectivity become the standard that the public will come to expect?

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Welcome to the new millennium! Now, if I could just get Scotty to beam me over to the holideck for some rest and relaxation . . .

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