

The Future of Medical Publishing

by David Woods, PhD

Commenting on the future of anything is a mixed blessing. On the one hand, for an editorialist it offers an irresistible combination of temptation and opportunity; on the other hand, one is mindful of the many who have upended themselves memorably on the banana peel of prediction.

For instance, in 1800, Thomas Malthus, a practitioner of what later became known as "the dismal science" of economics, famously foretold of a world population imminently to be extinguished by its inability to feed itself. Today, a senior fellow of the Hoover Institute claims that "the entire population of the world could be housed in the state of Texas, in single-story houses -- four people to a house -- and with a typical yard around each home."

This assumes, of course, that you could persuade them all to move to Texas.

In 1943, Thomas Watson, then-chairman of IBM, stated confidently that there was a world market for about five computers. And C.P. Scott, crusty editor of the (then Manchester) *Guardian* is said to have snorted: "Television? The word's half Greek and half Latin: no good can possibly come of it."

No wonder Yogi Berra vowed that he would predict anything except the future.

What I'd like to try to do here is to offer some brief background and statistics, discuss the impact of managed care and electronic publishing, comment on international opportunities, trace some trends -- and say why I believe that in this information age -- an age of concurrently dwindling attention spans -- there will always be a role in medical publishing for savvy and linguistically rigorous writers, editors and publishers. Afterwards, I'll be happy to answer questions.

Since Thomas Wakley published the first issue of the *Lancet* in 1823 -- as he put it "to put an end to mystery and concealment" in the world of medicine -- the sum total of medical knowledge has increased explosively (today there are some 25,000 biomedical journals) and the speed at which communication is achieved has been even more dramatic. In Wakley's time, the speed of communication was no faster than a human or a horse could carry it. Today's communication is about two-thirds of a billion miles per hour. The good news is that that's as fast as it *can* go. Unless, of course, Einstein was wrong.

The bad news is that costs have no such limitations. While Wakley's *Lancet* sold for sixpence, average annual subscription prices for medical periodicals surged from \$51 in 1977 to a whopping average four-digit price in many instances today. No wonder Cornell University recently decided to review and severely prune the \$1.7 million a year it was paying mega-medical publisher Elsevier for some 930 science journals.

In his book *The Inarticulate Society*, Tom Shachtman says that Americans today watch 1,500 hours of television a year, which means about 50 days a year; or, if we extrapolate a bit, roughly nine years by the time they reach 65 if they haven't expired earlier from boredom. By contrast, they spend a combined total of only 290 hours reading newspapers and magazines. Part of this decline in literacy, says Shachtman, is the chasm between the literate-based and oral languages. He refers to a computerized scale of comprehension skill in which a "level of difficulty" of an article in a scientific journal, *Nature*, rates 58.6 units, compared with a sample of *Time* magazine at 6.8 and of *The National Enquirer* at minus 10.3. He then goes on to note that "knowledge derived from {print} tends to remain more detailed, to stay with us longer, and to be more broadly based than what we receive from television." Perhaps that's why the three principal medical television companies have ceased to exist in the past couple of years.

Neil Postman, professor of communications at New York University, points out that the process of reading encourages rationality. Postman -- surely a felicitous eponym for the bearer of such an epistle -- says that a printed page containing a narrative or argument that unfolds line by line encourages a more coherent view of the world than does a slambang broadcast of quickly changing, high-impact images.

Speaking of slambang images, you may have noticed that I have no PowerPoint. And it's not by any means because I believe that PowerPoint corrupts. Rather it's because I think that the modern Lancet is at least partly right -- and not merely demonstrating some kind of journalistic arteriosclerosis -- when in a recent issue it published an article titled "PowerPoint: Shot with its own bullets." That article invited readers to "Imagine a world with almost no pronouns or punctuation. A world where any complex thought has to be broken into seven-word chunks, with colorful blobs between them" ... and where it's hard to accommodate full English sentences, so that meaning may be obscured.

In any event, there's a wonderful invention known as the Box Of Organized Knowledge. It has no electrical circuits or wires or mechanical parts, can be used anywhere, and consists of a number of sheets of paper bound together. The symbols on each sheet are absorbed optically and registered on the brain. This phenomenon is known by its acronym B.O.O.K.

The Economist, in a special report on the future of medicine, noted that doctors are finding it hard to absorb ever more information, and that American doctors typically spend no more than three hours a week educating themselves. And for most of them, the report says, applying the knowledge gained from reading journals has become as much an art as a science. The information can often be conflicting and few doctors have any idea how to resolve such conflicts. Not that this is a new phenomenon. More than a century ago Sir William Osler noted: "It is astonishing with how little reading a doctor may practice medicine, but it is not astonishing how badly he may do it."

Although the term *information explosion* has already been relegated to the ranks of cliché, the issue it describes is still very much with us. According to Veronis, Suhler and Associates, a New York company that analyzes business trends in the communications industry, health science and business are still the two fastest growing subsets of the multibillion dollar US professional publishing and information sectors.

The company noted the following trends:

- Mergers and acquisitions in the medical publishing industry will continue.
- Access to information will be a continuum -- 24 hours a day, seven days a week.
- Constant updating of information will be vital.
- A move towards just-in-time publishing, and customized product packaging -- even in print -- will accelerate.
- Products on shelves will be marginalized as healthcare professionals increasingly seek information online.
- Medical journals rely heavily on libraries, associations, individual practitioners – and pharmaceutical advertising. Spending in this category is \$628 million, but will decelerate as publishers adopt online content, a move driven by increasing demand for solutions-oriented publishing.
- VS forecasts that totals spending on *all forms* of healthcare media will rise at an annual rate of 7%, hitting \$4.8 billion in 2007.

Perhaps compounding all of this are changes taking place both in the medical profession and in the pharmaceutical industry. We're heading for an oversupply of doctors -- or, as one wag put it, the stream of urologists will dry up, the supply of psychiatrists will shrink, and there'll be cuts among the surgeons. He might have added that it would be rash to predict the future for dermatologists.

The good news is that as the population ages, the amount of money spent on pharmaceuticals goes up, which should act as a stimulant to advertising and promotional spending. Of course, the market is fueled in part by new product launches, and the so-called pipeline for new drugs is rapidly constricting, while patents on existing blockbusters like Claritin expire.

The bad news, at least from the standpoint of medical journal publishers, is that pharmaceutical spending on promoting prescription products direct to consumers now takes up an increasing proportion -- close to a quarter, or \$3 billion -- of the roughly \$16 billion a year the industry spends on all forms of marketing.

Moreover, the pharmaceutical companies are no longer allowed to seduce doctors with free dinners. The days of trinkets and junkets are over -- by law. Gaining access to physicians in order to discuss drug products is the thing that keeps executives and some 90,000 sales reps awake at night, as I found during a recent research project my company conducted for Institutional Investor, a division of Euromoney.

Drug firms will become even more dependent on R & D (they're already spending twice as much as they did a decade ago, and with fewer major new products to show for it) especially with an estimated one third of the industry's best-selling patents about to expire, and doctors will have to demonstrate, with the help of computers, that their work is cost-efficient. In all of this change, though, I do see a continuing, if different, partnership between the pharmaceutical industry and the medical profession. The industry now has a vested interest in targeted, value-added, informational Continuing Medical Education, and, for that matter, in a sophisticated and

discerning consumer.

These developments have a huge impact on medical publishing, which has enjoyed 20 or 30 years of incredible growth connected with developments in research. Yet the explosion of knowledge brought its own problems. Over publication; a cafeteria of choices; a cacophony of messages. Jay Lippincott, CEO of what is now Lippincott, Williams and Wilkins, says the way to get attention amid all of the din is to be market focused, by a redoubled effort at *quality* of content and presentation. Publishers who don't listen to -- and respond to -- an increasingly discerning and demanding clientele won't survive, he says. And indeed, publishers often think they know what's best for their audience without checking with that audience first. With that in mind, I asked my graduate students at Rosemont to survey doctors about what they read and what they need. Their term project was to produce a publication based upon their findings.

And indeed, publishers have a key role to play in the whole concept of what drug company Eli Lilly calls "knowledge is powerful medicine." But it will be a different role. Those who want to disseminate that knowledge had better be ready for the changes being wrought by volatile advertising support, consumer sophistication, rapid advances in information, and a proliferation of media. The American Medical Publishers Association (AMPA), until quite recently a cozy club of mildly Dickensian *colporteurs*, now has several members who are in purely electronic media.

Part of the tumult in medical publishing -- something that a headhunter at last year's AMPA annual meeting called 'not an industry for sissies' -- is in the re-shaping of healthcare itself. Specifically, managed care, which is, in effect, healthcare in the US today.

Robert Benchley once observed that the world is divided into two types of people: those who divide the world into two types of people -- and those who do not. Where managed care is concerned, there are, it seems, two types -- those who hate it; and those who merely loathe it.

Despite studies showing that quality of care has not been demonstrably compromised under managed care, it is hard to find any friends of the system among either doctors or patients. But ask about alternatives, or look for positive articles about managed care and you seek in vain. The media cite horror stories about denial of care; TV series such as ER feature doctors trying to do good despite managed care's strictures. And you might remember when audiences applauded loudly when Helen Hunt did an anti-managed care rant a few years ago in the movie *As Good As It Gets*.

All of this, despite the fact that -- to paraphrase Winston Churchill on the subject of democracy - - managed care is the worst form of healthcare except for all those other forms that have been tried from time to time.

I pretty much said this in my Research Report for *The Economist Intelligence Unit* and still have some of the arrows in my back to show for it.

Today, more than 80% of Americans insured by their employers are in some sort of managed care plan -- as are the overwhelming majority of doctors.

What does this mean for publishing? I believe it means a whole new set of opportunities. Healthcare professionals are avid for management information, and evidence-based medicine, customer service, and legal and ethical issues are all assuming new significance; new technologies need to be explained; information technology has to be demystified. It's hardly surprising that an estimated 2% of our \$1.5 trillion a year healthcare system is now spent on consultants trying to figure out, and explain, what's happening!

For medical writers the opportunities are huge. Not only in interpreting the enormous and complex advances in medical science, but also in exploring and clarifying the healthcare delivery issues that affect all of us: Affordability is perhaps the main one. But also the need for 'wiring' healthcare; the aging population; increasingly sophisticated (and expensive) technology; malpractice and medical error; consumer power; quality and consistency of care; the 44 million uninsured Americans; the threats posed by biologic, chemical and radiologic weapons; re-thinking the way we train health professionals – viz: Narrative Medicine – and the continuing, nagging issue of what former Penn professor of medicine Dr. Bill Kissick calls "Infinite needs versus finite resources."

Writing in English may be, as James Joyce put it, "the most ingenious torture ever devised for sins committed in previous lives" but the rewards for bringing to bear on medical writing what I call the four Ps – Passion, Perseverance, Patience and Pachydermia (a skin thick enough to deflect criticism) – are enormous.

Moreover, there are international opportunities for medical publishers. Countries in Europe, Asia and Latin America – faced, like the US, with aging populations and ever-more-expensive technology -- are looking to American management know-how.

Not that there aren't cultural barriers to global adoption of the managed care model. Other countries don't necessarily share Americans' unique optimism that leads them to believe that, if only they spend enough money on healthcare, death can be postponed -- possibly even avoided altogether. As one Scottish physician who moved from Scotland to Canada to California put it: "In Scotland, death is imminent; in Canada, it's inevitable; in California, it's optional.

A quick note on newsletters. The Newsletter Publishers Association has some 700 members representing about 5000 titles of which roughly 300 are on healthcare topics. A study of some 250 newsletter publishers conducted at Northwestern University concluded that: "Though its revenues exceed the billion-dollar level ... the newsletter industry has been all but ignored by mainstream media and academe. This omission now becomes even more glaring as the {newsletter} industry prepares to go on-line minus the agony being experienced by many magazine and newspaper companies. The specialty-targeted newsletter seems poised for unprecedented success as it steadily winds its way towards cyber distribution. Already, one fourth of all for-profit newsletters provide for online delivery." AMPA's own newsletter and *Philadelphia Medicine* – both of which we publish – are available online.

So, with paper costs rising, journal advertising declining, subscription prices forcing libraries -- and individuals -- to cut back on purchases but still to demand the best and most current information, is the way to do it an electronic way. A superhighway?

Well, radio existed for 38 years before it had 50 million listeners; television took 13 years to reach that number; the internet got there in just four years. Today, more than two-thirds of US physicians access the internet ... with medical libraries and publisher sites ranked highest among doctors who use the web for professional reasons. Even so, some experts warn that although the Internet has provided a way to connect all our computers, training for the use of such technology among medical professionals is lacking. So the use of the Internet to exchange medical information has been sluggish.

Now, I have a confession: My office sports a picture of Johannes Gutenberg, and as one who has thus far failed to extinguish that damn winking sign on my VCR, I am reluctant to claim any special insights about the Internet. In fact, I twice lost chunks of a piece I wrote a couple of years ago for *The Economist Intelligence Unit* on the information highway in healthcare. Furthermore, I take a fugitive pleasure from knowing that two of the most creative science fiction writers and futurists of the 20th century -- Isaac Asimov and Ray Bradbury -- steadfastly refused to fly in an airplane.

But for those whose knuckles whiten at the mere thought of winging through cyberspace, The Association of American Publishers produced a lucid and balanced document titled *Promises and Pitfalls -- a briefing paper on Internet publishing*. It starts with the premise that "Publishers participate in the creation and dissemination of knowledge. We need to remind ourselves as we go along that our ultimate goal is not necessarily the preservation of publishing as we know it. If we -- commercial and not-for-profit publishers alike -- do not clearly understand this, we will lose our role in the process altogether."

The document lists as advantages: Efficiency, decentralized operation, timeliness, searchability, customization, globalization, access and cost. And the disadvantages as: Quality control, hidden real costs, copyright, privacy, and a lack of the formal rigor of print. Paul Evan Peters, executive director of the Coalition for Networked Information, likens the present status of the Internet to a "Paleolithic period ... in which crude tools are being used to fashion crude but functional artifacts; in which the dominant personalities are hunter-gatherers and storytellers; in which institutions and organizations ... are hard at work securing the gains of these pioneers by constructing fixed settlements that are attractive to settlers."

To be sure, the internet is more quirky and anarchic -- less linear -- than print. Whoever said that freedom of the press is greatest for those who own one was unwittingly prescient. Traditional publishing is an *ex cathedra* affair, top-down, hierarchical. Electronic publishing is essentially egalitarian. Not only that, but in the electronic age, publishers may not be the only ones doing the publishing. Universities like USP may be the sleeping giants of publishing, with the World Wide Web having turned every university into a publisher and every faculty member into an author; after all, the university's business is knowledge creation, transmission and management.

And incidentally, anyone who has entered a chat room on the internet will readily see that it's only a matter of time before we return to grunts and hieroglyphics. In medicine, where clarity and simplicity in communication are vital, there's a crisis. Illegible handwriting is one thing;

unintelligible speech and prose are quite another. Physician and author Richard Asher wrote that “to rise quickly in the medical profession you must learn to sell your ideas by acquiring the technique of pseudo-profundity. Remember that the harder anything is to understand,” he said, “the more readily will committees allocate money to it. Much sensible medicine is obvious, but the obvious does not impress.”

That, I think, is where writers and editors will have their day in the sun: No matter what the medium, language, syntax, cadence, pellucid prose will be more vital -- and more in demand -- than ever. Any advice for accomplishing all that? Aside for the four Ps – Read, read, read. Find a role model such as George Orwell, who in his all-too-brief life (he died of tuberculosis at 47) produced a prolific output of novels and essays.

“Good prose is like a window pane,” Orwell wrote in his essay, *Why I Write*. And his attention to clarity of prose is an enduring lesson for those who aspire to express their thoughts clearly. Linguist Geoffrey Nunberg calls Orwell’s classic *Politics and the English Language* the most widely-cited of all 20th century essays on the language. In it, Orwell refers to the mixture of vagueness and sheer incompetence that is the most marked characteristic of modern English prose ... which he says consists less and less of words chosen for their meaning, and more and more of phrases “tacked together like sections of a prefabricated hen house.” He warns against worn-out metaphors like having no axe to grind, or mixed metaphors such as the Fascist octopus has sung its swan song.

Above all, Orwell called for sincerity, simplicity, and concreteness in language. The greatest enemy, he believed, is insincerity such as the example he cites in *Politics*: “Defenseless villages are bombed from the air, the inhabitants driven out into the countryside, the cattle machine-gunned, the huts set on fire with incendiary bullets – this is called pacification.”

Orwell gives in that essay a wonderful example of linguistic decay. He starts by quoting the well-known verse from Ecclesiastes: “I returned and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favor to men of skill; but time and chance happeneth to them all.” This he turns into modern English as: “Objective consideration of contemporary phenomena compels the conclusion that success or failure in competitive activities exhibits no tendency to be commensurate with innate capacity, but that a considerable element of the unpredictable must invariably be taken into account.”

I would submit, too, that all teaching is firstly the teaching of language. Muddled syntax is the outward and audible sign of confused minds, and the misuse of grammar the result of illogical thinking.”

In sum, I see a synergistic broadcasting of information through a variety of media ... with quality and relevance and credibility of the material being the principal factors governing the user's choice of medium. In fact, the *British Medical Journal* suggests an amalgam of short print articles hitched to a more detailed version of the same thing online. That iconoclastic journal also whimsically leans on *The Simpsons* to illustrate changes in medical publishing.

After noting that such publishing is (quote) changing dramatically because of many forces, the editors posit four possible futures: In the (wise) Marge world, “academics innovate and publish primarily on the web not in journals; publishers must publish large numbers to succeed.” “In the (lazy) Homer world, publishers adapt to the electronic world and continue to publish research.” “In the (well-informed) Lisa world, publishers have largely disappeared, and communication takes place mainly through global electronic conversations. “And in the (streetwise) Bart world publishers have largely disappeared, and large organizations have become the main purveyors of research.”

As the Association of American Publishers puts it: "There are some who will rightly conclude that the changes (in medical publishing) are so enormous, and that sociological adaptability lags so far behind, that business for print-based publishers will continue to be robust into the 21st century." And *Newsweek* weighs in with a cheery answer to the question: Will computers kill paper usage? Not a cyber chance, says the magazine, predicting that the demand for paper for print media will jump from 30 million tons in 1995 to almost 50 million by the year 2015.

But then again, when the telephone came into being, it was predicted that it would bring peace on earth, eliminate accents and class distinctions, revolutionize surgery and stamp out heathenism.

Prediction is an uncertain, yet durable and wonderful business. Perhaps second only to publishing.

