Cites & Insights

Crawford at Large

Volume 3, Number 2: February 2003 ISSN 1534-0937 Walt Crawford

A Copyright-and-Media Perspective

Copy Protection and Next-Generation Audio

Stereophile's "Industry Update" continues to provide technically savvy coverage of issues related to audio media, which naturally slop over into copyright these days. Two portions of the November 2002 section, by Barry Willis and Jon Iverson respectively, consider the current status of the two "super CD" media, DVD-Audio and SACD. Both can provide substantially higher resolution sound (higher sampling rate and longer amplitude word) than CD; both can offer discrete surround sound—although there's a tradeoff between higher resolution and multiple channels.

Why do you care? Because either DVD-Audio or SACD *could* displace CD as the primary audio medium (although that's unlikely), because both can curtail fair use rights, and because a few libraries may see demand for these media.

For audiophiles, the sales pitch for both media is better sound—assuming you're one of those who believe you can personally hear anything better than today's best CDs deliver. (I'm not, and I don't spend enough on equipment to qualify as an audiophile.)

For other consumers, the sales pitch is mostly surround sound, laced with a promise of even better sound than CD's "perfect sound forever." Given SACD-based and DVD-Audio based surround-sound systems that cost $500 or less including receiver and speakers, it's fair to say that "better sound" is mostly theoretical in those cases.

For the industry there are two other sales pitches, both more important:

- A new audio medium offers the chance to sell people the same music yet again, if you can convince them the new medium is better.
- Unlike CD Audio, an inherently unprotected medium, both SACD and DVD-Audio are inherently copy-proof or at least copy-resistant, and there's no nasty old standard getting in the way of making them even more so. More to the point, at least with DVD-Audio, watermarking may provide another level of copy protection.

The problems with both media, in brief:

- There are two of them. Yes, Sony's the primary force behind one (SACD) while a so-called standards body (really an industry cartel) is behind the other (DVD-Audio or DVD-A).
- In times when money doesn't flow like water, and with advantages that are nowhere near as clear as those of CD over LP or DVD over VHS, people aren't flocking to the new media—a situation not helped by the presence of two media.

Inside This Issue

- While record stores are ever so eager to stock copy-protected media, they're not eager to stock multiple formats.
- There haven't been many DVD-Audio releases (maybe 300 by the end of 2002, many from minor labels) and not loads of SACD either (but more than 650, many from major labels).
- People who think 128K MP3 is "CD-quality" are never going to hear sonic improvement from either medium, although they might convince themselves that they can.
- Surround sound may be neat, but most surround-sound receivers can produce pleasant effects from ordinary stereo CDs. Unless you really want to be sitting in the middle of an orchestra or band (as one label masters its DVD-Audio releases), discrete surround sound may not be a big selling point for most consumers.
- Savvy consumers (both of you!) don't appreciate the built-in copy protection.

So what's new? A few things, not all connected to copyright:

- Sony's adding SACD circuitry to some very inexpensive DVD players; others are adding DVD Audio to cheap players.
- A rerelease of 20 Rolling Stones recordings has begun, all on "compatible" SACD discs priced the same as regular CDs. Compatible SACDs have two layers: regular CD, playable on any CD player, on one layer; SACD on the other. A whole bunch of Stones fans are likely to buy the recordings (which are apparently the best remasterings ever done of these classics) and, down the road, say "Hmm. Wonder what they'd sound like on an SACD player?"
- DVD-Audio proponents like to pretend that SACD doesn't exist (although some companies now produce "universal" DVD players that handle both media), but somehow a bunch of them found it appropriate to drop DVD-A prices to CD levels at about the same time Sony did the same for SACD.
- The copyright bit, that also affects DVD-A's worth among audiophiles: DVD-A uses watermarks. The watermarks do represent audible distortion, "so that music played through speakers cannot be recorded" as one consultant says. Of course that person says that audible distortion won't deter music lovers from buying discs. Why on earth not?

In the good old days (before I started paying attention), I would have assumed that electronics giant Sony, whose victory in the Beta case protected consumers' right to use VCRs as recorders, would be adamantly on the side of keeping discs copyable. That was the good old days.

Sales Drops and Reality

That same November 2002 *Stereophile* continues with a multipage discussion of Forrester Research's study on why CD sales have dropped, noted briefly in January's "Copyright Currents." I **recommend** reading the discussion (pp. 25-29). Some key points:

The Forrester report says, "Labels can restore industry growth by making it easer for people to find, copy, and pay for music on their own terms." Forrester's Josh Bernoff identifies three crucial issues as "the Music Bill of Rights":

- Consumers will demand their right to find music from any label, not just two or three.
- They want the right to control their music by burning it onto CDs or copying it onto an MP3 player.
- They demand the right to pay by the song or album, not just through subscription services.

Meet those demands and we'll gladly pay for high-quality downloadable music at a fair price. That seems to be what every non-RIAA study shows—and it makes sense to me.

The same discussion cites other studies and key findings. The Yankee Group offers five key criteria for legitimate Internet music services to succeed:

- Services must offer content from all major labels and most independent labels.
- "Consumers do not want to rent music. If they pay for it, they want to be able to mix it, burn it, copy it, and retain ownership even if they choose to discontinue subscribing to a service."
- Downloaded files must be playable on different devices, including portable players.
- Legitimate music services must offer unique content and services.
- Digital Rights Management won't work in the long run: "Consumers want to share music, and they will find a way to do so."

An Arbitron/Edison Media Research study found that "streamies"—people who watch or listen to streaming Internet media at least once a week—buy CDs 50% *more* frequently than average Americans.

In-Stat notes that the RIAA is engaged in an old battle that's been consistently wrong: "From playing recorded music on the radio to playing movies on a VCR, the content development industry regularly tries to stop new technologies that ultimately end up being an important and profitable part of their business model." I might argue that it's singers and bands who *develop* content, but never mind.

Even the RIAA seems aware that their arguments don't hold water. Consider this remarkable waffle from Geoff Garin of the RIAA: "I would not argue that downloading and copying are the only factors at work [in the 7% sales decline in 2002], but we have clear evidence that downloading and copying *do not have a favorable effect* on sales." [Emphasis added, and note the Arbitron/Edison study that seems to show *precisely* such an effect.]

Dan Bricklin, notably, thinks otherwise: He believes that file trading may be one reason that sales haven't dropped even further (and notes that record companies have managed to increase prices enough to make up for a loss in sales volume). He also provides a thoughtful, well-written perspective on copy protection in general: "Copy protection robs the future." It's at www.bricklin.com/robfuture.htm, and it's **highly recommended**. Bricklin addresses digital preservation in particular, concluding (after four pages of clear discussion), "Works that are copy protected are less likely to survive into the future."

Other Voices

A brief item November 2 from Barry Fox at NewScientist.com notes that John Halderman (Princeton)

has concluded that CD copy protection is "fundamentally misguided." The note describes some of the methods actually used for such "protection," and correctly adds that easy (and presumably legal?) software upgrades for CD-ROM drives would undermine their effectiveness.

The ever-snarky *Register* (www.theregister.co.uk) had an August 11, 2002 John Lettice piece entitled "All CDs will be protected and you are a filthy pirate." It quotes a letter sent by BMG's copy protection team in response to a consumer's query. As translated, the (German) letter includes the following astonishing statement: "There are 250 million blank CDRs and tapes bought and used this year for copying music in comparison to 213 million prerecorded audio media. This means the owners are only being paid for 46 percent of the musical content." That's sheer nonsense, of course: BMG has *no way* of knowing what percentage of CD-Rs were used for music at all, much less for *illegal* copying of recorded music. (I presume the numbers are for Germany.) But that's not the kicker. The letter goes on to claim that reports of copy-protected CDs not playing in some players "can only originate from the realm of fairytales" and essentially asserts that the letter-writer is a crook. "We fear that these facts don't interest you at all. Because these measures [copy protection] mean the end of free music, something that must cause you much grief." It also says that *politicians* urged music publishers to introduce copy protection—which may be true in Germany, for all I know. It ends:

> If you plan to continue protesting about future audio media releases with copy protection, forget it; copy protection is a reality, and within a matter of months more or less all audio media worldwide are copy protected. And this is a good thing for the music industry. In order to make this happen we will do anything within our power—whether you like it or not.

A caveat: This story is from *The Register* and represents a translation of a German letter. But while *The Register* may interpret facts loosely, I've rarely seen them get the facts wrong. "A matter of months" strikes me as wildly implausible—but what the heck, I don't need to buy any more music, ever again. And if all CDs are copy protected, I probably won't.

And See…

Fremer, Michael, "Digital audio: The next generation," *Stereophile Guide to Home Theater* 9:1 (January 2003): 44-54.

This magazine is *Stereophile*'s much younger "home theater" (multichannel, digital TV, DVD) cousin. Oddly, Michael Fremer acts as the slightly bizarre "only LPs make music" extremist in *Stereophile*—but is a devoted multichannel, digital-everything writer in *SGHT*. This lengthy article (seven pages of relatively small type) discusses SACD and DVD-Audio and includes some comparative tests.

Fremer comments, "Recent history suggests that about 25 years is a healthy life span for a content-delivery medium." That's the same number I arrived at in *Current Technologes in the Library* for audio media (although perhaps not explicitly); it is, of course, nonsensical for other "content delivery media" such as color TV, FM radio, or books. His point in this case is that CDs may be nearing the end of their "natural" life span, dominant since roughly 1988.

The article is well-written and quite detailed, and admits that most consumers don't care about either SACD or DVD-Audio. Surprisingly, he cites roughly 1000 available SACD releases as compared to perhaps 400 DVD-Audio discs, even though DVD-Audio has much more supposed industry support. Not much about copyright issues, but useful background on the media themselves.

Tweney, Dylan F., "Hollywood vs. your PC," *PC World* 20:11 (November 2002): 127-32.

A good PC-oriented article about the effects of copy-protected pseudo-CDs and other aspects of the copyright wars. Jack Valenti gets quoted with his usual smarmy nonsense, but so does Jessica Litman, and the article notes that digital rights management appears to deny fair use rights. The EFF's Fred von Lohmann is a rare voice of reason on how to cope with illegal distribution of movies: lower DVD prices, which studios are doing. "Why spend hours downloading a crappy version of a movie when you can buy the full version for $9.99 at the supermarket?" Good question. Good layman's discussion.

The Library Stuff

Mendez, Rachel, "Hanging indents and the reference librarian: Offering productivity software in the public library," *Information Technology and Libraries* 21:3 (September 2002): 100-108.

Public librarians should read this article and consider Ms. Mendez' arguments. That doesn't mean that I necessarily agree with her premise that access to *and training for* word processing software should be part of the public library mission. The article won the second annual LITA/Endeavor Student Writing Award (Ms. Mendez graduated from

Emporia State's School of Library and Information Sciences in 2002). It's carefully argued, includes appropriate background and statistics, and provides a solid, if one-sided, bibliography.

On the other hand, it's a Crisis Industry paper. I believe we will never have an end to claims of Digital Divides, short of a society that's both communist and abolishes meritocracy. (A good reference librarian could remind me of the science fiction story or novel about such a society, where strong people are obliged to carry heavy weights and smart people must wear headphones that interfere with their thinking—thus making all people truly equal.) In this case, the Divide is that—although libraries provide almost everyone with access to the Internet—there are still people who don't have home computers. "Those without computers are unable to use today's powerful productivity software for word-processing, spreadsheets, and other applications." That's true enough. She goes on to say that "Documents such as letters to lawyers, school papers, story manuscripts for submission, résumés, and cover letters will not be taken as seriously if not produced on a computer and printed out neatly."

Hmm. I was not aware that a neatly-typed letter was no longer acceptable. I wasn't even aware that school papers couldn't be handwritten (but it's been a *long* time since I was in school), much less typed. I would bet money that any magazine that publishes fiction will favor a brilliant typewritten story over a mediocre computer-printed story—and, frankly, I can't imagine an editor saying "No, I won't read this, I can feel the indentations: It must not come from a computer!" The gap in story acceptance has to do with literacy and creativity, not with the difference between a cheap electronic typewriter and a PC.

With the Digital Divide almost inherently comes yet another expansion of literacy: "This paper defines the ability to use word processing as a form of literacy, and provides an argument for offering the software on PACs." Naturally, "computer literacy" will also keep expanding—Mendez favorably quotes an assertion that it requires not only the ability to locate and collect information "but also to evaluate and apply it in responsible and significant ways."

Mendez is not above linguistic bias. The *accurate* statement that an entry-level PC now costs less than the *average* television (that is, the average amount spent for a TV) is called a "claim" and "refuted" by quoting prices from a 2001 Wal-Mart catalog. That's not a refutation; it's an anecdote, and a misleading one at that. A more interesting but undiscussed set of statistics appears as a table. Reversing the actual numbers, the table says that, as of 2000, 13.7% of households with annual incomes greater than $75,000 did *not* own personal computers. Neither did 26.8% of households between $50,000 and $74,999 and *41.4%* of households between $35,000 and $49,999. If a PC is such an essential tool to be part of today's society, how can a full one-seventh of affluent households and quarter or more of middle-class households get by without them?

Mendez concludes, "If we have the ways and means to provide productivity software to our patrons, we *must* take that step." [Emphasis added.] And, in an appendix, we have crisis-mongers telling us that computers and the Internet should be publicly-funded and "must be available to all, regardless of ethnicity or geography or income." (This quote also seems to regard telephones as a necessarily-publicly-funded good, which will surprise those who've been paying every month for phone service.)

Am I saying that public libraries should *not* provide word processing software? No. I'm agnostic on this one, although I do question the notion that training for word processing can reasonably be called part of reference librarianship. I found this article thought provoking or it wouldn't get this much attention. I'm not convinced, but you might be.

Bibs & Blather

Maxing Out on Monthly Charges

This blather has *zero* relevance to libraries—except, perhaps, that libraries offer a safety valve. The editorial in *Sound & Vision* for January 2003 talks about the editor's decision to try out Blockbuster's "unlimited rental" program—similar to Netflix except that:

- Blockbuster charges $24 instead of $19.95 for the three-at-a-time plan
- Netflix offers a much larger selection
- With Netflix, you can't be getting "special version" DVDs censored (without notice) to reflect ownership sensibilities—a known practice for Blockbuster with VHS, and one that a well-informed source has suggested also happens with DVDs
- Netflix offers a first-rate collaborative filtering system and maintains your queue of DVDs you're interested in
- By supporting Netflix, you're improving chances for independent filmmakers—and you're not supporting massive chains that wiped out most independent rental stores through sweetheart deals with Big Media.

Of course, with Blockbuster you can drive that Ford Brontosaur down to the store to pick out your DVD

in the warm, comforting ambience of your monopoly outlet.

The "sigh" I penned next to the glowing description of Blockbuster's program isn't the reason for this grump. That's the rest of the editorial—where I find myself in partial agreement with Bob Ankosko. He "started thinking about other entertainment-related fees many of us pay every month and the trend toward monthly subscriptions." Of course, in Ankosko's media-saturated life, $30 or $40 a month for cable only gets you a "modest programming lineup," while you'll pay twice that much for *real* television goodness. (True enough: We only get 66 channels for our $30 a month. How do we survive?)

Then there's your TiVo or ReplayTV—after all, you need ways to *watch more television* from that $60 to $80 a month collection. Add $10 or $12 a month for the TV listings…for *each* disk video recorder (you do have more than one, don't you?). Then there are your fees for "Internet-enabled devices" and "legitimate" Internet music services and online gaming. (His list there *does* mention Netflix "if you like trading videos by mail," an odd dismissal for what I regard as a superior service.) He concludes:

> As we continue to add entertainment fees on top of other monthly bills, I'm left wondering how long it wll be before we reach the point where "just another few bucks a month" becomes a few bucks too many. Considering how easy it is to crack $100 in monthly subscription fees, it might not be too long for some of us.

Geez, Bob, *some* of us reached that limit long ago. Better yet, some of us decided that life needed to be more than just finding ever more ways to get more "entertainment" media into our lives.

Glancing Back: 1, 2, 5, and 10 Years

This may or may not become a separate and regular feature—with "5, 10, and sometimes 15 years" limited to once a quarter for obvious reasons—but for now, here goes:

February 2002

In addition to a review of 2001 predictions (see elsewhere in this issue), *Cites & Insights* 2:3 included a relatively brief and utterly disorganized "Copyright Currents" and a long set of comments on the first portions of "text-e," including Roger Chartier's intriguing commentary, a surprisingly good piece from Stevan Harnad, and a heap of nonsense from Roberto Casati. The most interesting "trends" were the sure-fire success of Video on Demand (or not), the recognition that sales of prerecorded DVDs exceeded those of videocassettes in 2001, a premature "tablet PC," and Dan Gillmor's assertion that Google has made it less necessary to register every possible variation of your personal or corporate name as a domain.

Elsewhere, I posited "selective disintermediation"—bypassing publishers and record companies in some cases—in "The Crawford Files" and compared the roles of the radio and the Internet on September 11, 2001 in "disContent."

February 2001

The big piece was "Ebook Watch," focusing on the Rocket eBook/Gemstar fiasco and commenting on a variety of surprisingly naïve perspectives. Naturally, there was a review of previous predictions and new projections. A fairly comprehensive history of :CueCat yielded the (so far) only "DivX Memorial Award" as an ecologically-depraved, heavily-backed "solution" for a problem that didn't exist—and that invaded consumer privacy with no offsetting benefit. Trend notes included "decline of the Internet" silliness, the bizarre Fox suit against the University of Wisconsin for the "Why Files" infringing on X-Files trademark, and a suit by Napster to protect its intellectual property.

The first "disContent" discussed content and context.

February 1998

"Crawford's Corner" replaced "Trailing Edge Notes"—and back then I did concentrate almost entirely on personal computing technology and CD-ROMs. (Some Web summaries still suggest that PC technology is the primary focus of *Cites & Insights*!) "Product Watch" featured big-screen PC/TV combos (remember the short-lived Compaq PC Theatre or the longer-lived Gateway 2000 Destination?), the $129 REX "true PDA" from Franklin Electronics, the lack of DVD-ROM titles, and the $2,699 Wacom PL-300 combined LCD display and digitizing tablet.

Winter 1993

Library Hi Tech included a Crawford double-header. "Trailing Edge #15" discussed PC values and what to think about when buying your next (or first) PC—and suggested buying some excess capacity. My suggestions, which may say a lot about what's happened in a decade: 150 to 250 *megabytes* worth of hard disk space; 8MB RAM if you planned to use Windows, 16MB for OS/2; a 486-33 unless you could afford a 486DX/2-66 (that's megaHertz, remember); Super VGA or Extended VGA (1024x768) graphics and a display with dot pitch no worse than 0.31mm—and a "good accelerated video adapter, preferably on a VESA local bus." Two diskette drives, one of each size. *Maybe* a CD-ROM drive.

The other article was one of several "Looking Back" installments on a decade of personal computing, looking at PC price and performance. It even had 3D graphs, undoubtedly done in Quattro Pro and, frankly, not easy to replicate in Excel today. My idea of a $1,500 "entry-level system" for January 1993 was a 486sx-25, 4MB RAM, 170MB hard disk, EVGA graphics with 1MB display RAM and 14" monitor (13" viewable), DOS, Windows, MS Works for Windows, and a mouse.

Just for fun, I checked Gateway's Web site just after preparing this piece. They feature a midrange $1,499 system that provides instant comparison of what a decade brings you. Pentium4-2533 (100 times the raw speed, but the Pentium4 is far more efficient than the 486sx), 256MB DDR SDRAM (64 times the RAM, many times faster), 80GB hard disk (500 times the capacity), nVidia GeForce 4 graphics with TV out and 128MB display RAM driving a 17" (viewable) LCD display (almost certainly 1280x1024), Windows XP, MS Works Suite 2003 (which includes Word and Encarta), and a Logitech optical mouse. Oh, and a DVD-ROM drive, 48x CD-RW burner, SoundBlaster Audigy audio card, Boston Acoustics speakers with subwoofer, modem, Ethernet, and some extra software. This isn't an entry-level system; you can't spend $1,500 on an entry-level system in 2003.

Pure Trivia

I made three changes in the overall publication style of *Cites & Insights* with the beginning of Volume 3. Can anyone name at least two of them?

Following Up

FEPP Revisited

Last month, I highly recommended Marjorie Heins' "'The progress of science and useful arts': Why copyright today threatens intellectual freedom," available from www.fepproject.org. It's a first-rate evidence-based report detailing some of the real harm done by CTEA and DMCA. I also noted a flaw: "printed badly thanks to a fixed-pixel assignment in the HTML…" that caused a word or two to disappear off the right edge of the printed page.

I told FEPP about the problem and promised to recheck the document before publishing *Cites & Insights* 3:1. And somehow headed down that road paved with good intentions…

The problem has been fixed. The report now prints properly, and FEPP's pages now scale nicely. There's still a pointless colored or shaded band down the entire left side of the report, but that's purely an annoyance. 50 pages or not, this report continues to be an excellent single-source review—and continues to be **highly recommended**.

I just received a printed copy from FEPP. It'ss 48 pages long, indexed, and nicely laid out. This is an interim report. The final version will be published later this year—and many librarians should consider acquiring it. I believe it belongs in every library school collection, just for starters.

FEPP is part of NCAC, the National Coalition Against Censorship (www.ncac.org). NCAC has issued evidence-based reports on censorware as well (one was cited in *Cites & Insights* 1:13). Good stuff.

Perspective

The Gap between Logic and Reality: Why I Use Ad Hominem

Back in high school or college, I read a slender paperback on logical errors. It was an important part of understanding logic and rhetoric—and reminded me of some unfortunate and effective tactics I'd used in high school debate.

One of the classic errors in logic is *ad hominem*. The dictionary gives two meanings: Appealing to a person's feelings or prejudices rather than their intellect, and "marked by an attack on an opponent's character rather than by an answer to his contentions."

I don't mean the first, and I don't think of that as the ad hominem fallacy. Rather, ad hominem—to the man—most commonly means the latter: "You can ignore what Gerome says because he's a scoundrel."

The argument *against* ad hominem thinking goes further, however, and it's the extrapolation that I find unworkable in the real world. Specifically, to be pure of soul and logically transparent, we are expected to:

- Refrain from ignoring or dismissing contentions and evidence from someone on the basis that they have a history of flawed contentions and bad "facts"
- Avoid bringing up that history as a full or partial response to the new contentions
- Deal honorably and fairly with statements from someone no matter how dishonorably, unfairly and disagreeably that person behaves.

I'll accept that treating arguments on an ad hominem basis is logically fallacious. But when it comes to leading my life, and deciding what to discuss and cite in *Cites & Insights*, I'm afraid that the real world trumps pure logic.

To put it another way, I'm increasingly comfortable ignoring articles and commentaries from certain sources that I might not ignore if they came from other sources. I'm also comfortable imputing motives behind articles that aren't necessarily present in the text of the articles, based on the background and history of the writers.

Examples? I won't name names, and I'm deliberately using "they" as a gender-neutral pronoun, but:

- At this point, I'm deliberately ignoring the commentaries of certain scholars on certain issues because those scholars have shown such remarkable unwillingness to consider any other sides to any issue and such complete and bullheaded belief that they are correct in 100% of everything they assert and that nobody else could possibly know better. That, coupled with a tendency to attack anyone who doubts their every word, has led me to simply ignore them—as a defense mechanism, if nothing else. (Peter Suber is clearly *not* one of these scholars.)
- From time to time, a "Johnny one-note" arises—someone who bends every discussion to their specific issue, typically an issue that's minor in the broader scheme of things. At a certain point, most of us find that the only way to deal with J.O.N.s is to ignore them. It's not always easy, and once in a while we may be ignoring real problems as a result, but J.O.N.s trivialize their own arguments by trivializing the rest of the world. (Now that I think about it, most of the people I choose to filter are J.O.N.'s to some extent.)
- If a writer has on several occasions made dramatic proposals that ignore economic reality, "work" only by oversimplification, and would undermine the continued health of public libraries, I feel justified in approaching new proposals or articles from such a writer on the assumption that the new pieces will have similar flaws—even if those flaws aren't evident in the written text. More likely, I'll simply ignore such a writer, unless there are reasons to point out the continuing problem to others.
- If a futurist and pundit consistently gets things wrong and ignores those failures (or, worse, rewrites history to claim that they are successes), I have no qualms thinking of the futurist as a charlatan and treating their views accordingly.

It's fair to say that I'm always a *little* uncomfortable with this stance—the set of filters that essentially ignores certain people because of their track records. But I've deliberately reduced the amount of attack pieces in *Cites & Insights:* "Cheap Shots & Commentary" appeared three times last year and dealt with four articles in all. I don't feel it's my job to point out every defective article I see; I do believe I'm allowed to ignore people whose work drives me nuts.

I do claim to be slow to add someone to my informal ad hominem filter list. I don't add someone because I frequently disagree with them: Andrew Odlyzko and Barbara Quint, for example, aren't on the list. I don't add someone just because I find them personally disagreeable—but there are very few people who fall into that category. ("He's an asshole but he thinks and writes beautifully" is a perfectly plausible opinion, and in that case I'd try to focus on the thinking and writing.)

I'm not naming names here because I'm not sure I'm right in any of these cases. Maybe there's something about these writers and thinkers that rubs me so much the wrong way that I just have to back off. Maybe they're actually people I should look up to. "YMMV" may be an annoying Internet abbreviation—but, well, your mileage *may* vary.

The flip side of ad hominem is resort to authority—"This must be right. The person saying it is a Great Man." Anyone who reads *American Libraries* (March 2002) or pays attention to the material here knows how I respond to Great Man arguments!

Trends & Quick Takes

Much of what used to appear in "Trends & Quick Takes" has migrated to ongoing topical clusters, for good or for bad. That may account for this installment being a bit "tech-heavy." People who really don't care about technology can skip the first section, but do read the mini-perspective on gadget fatigue—particularly those of you intent on shifting libraries to wonderful new paradigms.

Platform Wars

Gateway, currently about the same size corporation as Apple (in terms of sales—it's been a tough year or two for Gateway!), did the unthinkable recently: Ran TV and magazine ads directly comparing the Gateway Profile 4 all-in-one computer with the Apple iMac. I haven't seen the TV ads, but the magazine ads make compelling points in Gateway's favor.

Macworld reveals its natural bias in the headline to a December 2002 story about the two computers

and Gateway's claims: "Lies and statistics." But the story itself is remarkably fair—and, for Apple, must be a bit disturbing. I find it interesting that *Macworld* accuses Gateway of performing a "peculiar set of tests" to show its speed—after all, boot time, opening large files, and JavaScript rendering of Web pages are pretty common speed issues. (Maybe Mac users never turn off their computers, so boot time isn't an issue?) And Quake III Arena 3-D rendering speed may be "peculiar" but it's been a common measure of graphics speed for both platforms.

So, of course, *Macworld* used Apple's pet performance test: Adobe Photoshop, which has always been highly optimized for the latest PowerPC features and, until now, never well optimized for Pentium versions. If you believe Apple's tests are fair, all computer users *really* do is run Photoshop.

Guess what? On *Macworld*'s Photoshop 7 Suite, the $1,999 iMac took 72 seconds—and the $2,149 Profile took 29 seconds. Suddenly, it's important to point out that "it's unlikely that either consumer computer would be used as a hard-core Photoshop workstation." And, somehow, "While the pumped-up Profile is a faster computer than the iMac, in most cases it's comparable in terms of performance."

It's an old *Macworld* story, try as they might to be fair: When tests favor the Mac, they're vitally important even if the edge is tiny. When tests favor Windows, the tests don't matter.

I agree with *Macworld* that the iMac design is snazzier than Gateway's. I don't know how Apple engineers that arm, but it's a marvel.

A couple of other "platform wars" items relate to this, both from the January 2003 *Macworld:*

- One of the paradoxes of the PC "platform wars" is that the Mac OS comes with some level of speech recognition built in—but that advanced speech recognition software has been almost entirely reserved to Windows. You can't get a Mac version of Dragon Naturally Speaking, for example, and IBM didn't release ViaVoice for the Mac until late 2001. The January 2003 *Macworld* reviews iListen 1.5, a $99 program—but gives it a mediocre two mice. Even with extended training, the program only achieved 82% accuracy and lacks enough built-in commands to be very useful.
- Speaking of platform wars, performance comparisons have always been iffy. How odd it is to see *Macworld* quote Peter Glaskowsky of *Microprocessor Report* in touting IBM's forthcoming PowerPC 970: "With a machine powered by two PowerPC 970 processors, Apple could claim performance superiority with more legitimate metrics than the company uses now." He goes on to say, "It's been a few years since Apple has had a Mac that is competitive with the best you can get on the PC side." Strong language to appear unchallenged in *Macworld*!

Gadget Fatigue (a Mini-Perspective)

At the tail end of 2002, my wife & I were discussing the surprising lack of post-Christmas madness at area stores. She suggested that most people just can't absorb any more *stuff*, and I believe she has a point. That came to mind when I read David Carnoy's column in the December 2002 *Computer Shopper*, where he says that MP3 players have to drop below $100 before we'll all buy them.

It's the last paragraph that got to me—after an opening about how this jerk uses his MP3 player at the gym as a pickup line ("Mine's smaller") for the "woman on the treadmill next to me" listening to her "not-entirely-skip-proof portable CD unit":

> Will players be cheap enough to make people dump their CD and cassette players and go solid state? The closer manufacturers and retailers get to that under-$100 price point, the fewer excuses my fellow treadmillers have for not buying a digital audio player. As for me, I hope it happens, even if it means retiring a lame but reliable pickup line.

I shudder to think "Mine's smaller" actually works as a pickup line—but: "fewer excuses my fellow treadmillers have for not buying a digital audio player"? Give me a break.

Tens of millions of Americans are telling Wal-Mart, Circuit City, and even George Foreman and Ronco that *you never need an excuse for not buying something*. Particularly when you're told to scrap your year-old half-pound CD player that may not be "entirely skip proof" but meets your needs so that you can have an even lighter but also more expensive MP3 player and add several steps to the process of playing tunes. You're on a treadmill; you *really* feel the need to save four ounces of carrying weight? [We have here a commentator whose line to *male* acquaintances is "Dude, are you training for the discus toss with that thing?" He even looks a little like Adam Sandler in the photo.]

I have nothing against MP3 players (except the claim that 128K MP3 is CD-quality and 64K MP3 is "near-CD-quality"). If they meet your needs, great. If I got one, it would almost certainly be a CD player with MP3 support—and that wouldn't satisfy Carnoy. If you feel the need to put down people who aren't hip to your toy—not so great.

If I was on a treadmill next to this fine fellow and using the portable CD player that I don't own, I

might rejoin that I already use a digital audio player, jackass: Show me an analog CD and we can discuss the issue. Fortunately, I don't use a gym (home stair-climbers are cheap). Unfortunately for Carnoy and a lot of companies, most of us have grown tired of the Neat New Thing that doesn't improve our lives in meaningful ways. Even more of us have gadget fatigue to some extent.

Tablet PCs

PC Magazine reviews the first wave of "Tablet PC devices" (an ungainly term) in its December 3, 2002 issue. Why the moniker? These are all computers that run Windows XP Tablet PC Edition—but they're not all tablets in the way you might expect. All six devices have touch-sensitive LCD screens, either 10.4 or 12" diagonal (1024x768 resolution). The stylus is recognized when it's an inch or so above the screen, moving the "mouse" pointer; you tap the screen for one click, tap-and-hold for a right click, tap-and-drag to move something. There's decent handwriting recognition that works with many applications, but you can also store "ink" itself.

Four of the devices reviewed are slates, what you might think of as tablets: You *must* use the stylus for input on the go, although you can plug in a keyboard and mouse. The other two, including the Editors' Choice Toshiba Portégé 3500, are convertibles: notebooks with screens that can swivel and fold down to cover the keyboard. The Toshiba's fairly hefty for a tablet (3.9 pounds, 11.6x9.2x1.3") but it's also fast (a 1.33GHz PIII-M CPU) capacious (40GB hard disk, where most are 20GB), and flexible—it even has an external DVD-ROM drive. It's pricey for a thin-and-light notebook ($2,500), but a great "transitional" machine. These are *all* on the expensive side, running $1,800 to $2,500.

Quicker Takes

- The back-page "Random access" column in *Red Herring* 160 notes that George Gilder's having a tough year. His own pricey newsletter's losing circulation; *Forbes ASAP*, where Gilder preached most widely, shut down; and he appears to be abandoning most of his supposed principles. Is it possible that nearly unbroken strings of bad projections can finally catch up with someone? One can only hope.
- If DisplaySearch is right, next year is the "tipping point" for LCD displays—the year in which more LCD monitors than CRT monitors are shipped. The report (cited in the December 24, 2002 *PC Magazine*) predicts that 82% of the market will be LCDs in 2006; thanks to higher prices, if I'm not mistaken, LCD monitors already account for more revenue than CRTs. With ClearType and the Mac equivalent and as prices get better, there are few downsides unless you're a graphics professional.
- Maybe I'm not the only person way behind the technology curve: Here's the first sentence of a "hot new technology" item in the December 2002 *Computer Shopper:* "Sometime in the future, you'll be able to unpack your new VCR, plug it in, and watch a movie without fumbling with a tangle of wires behind the stereo cabinet." *Your new VCR*? With IEEE 802.15.3 "WiMedia" support built in? I'm going to hazard a guess that the market for brand-new *videocassette* recorders introduced in late 2003 or later, ones with hot new wireless support (which, of course, also requires all-new stereo equipment and TV), just won't be that strong.
- Jeff Raikes of Microsoft may have his head screwed on straight. Here's what he says when Charles Cooper grumbles about all those Office features that "people never touch" in a December 2002 *Computer Shopper* interview: "The disconnect is that people are supposed to use all those features. That's never been true and never will be true. We can say there's only about 10 percent of 20 percent of the features that we'll use, but your 10 percent is going to be different than my 10 percent." (He goes on.) I ran into the same situation some time back, when a correspondent said "These are the dozen Word features I need; nobody needs the other advanced features." I responded that I didn't use *any* of those dozen features—and that I was pretty sure this person didn't use most of my "most important" features. If I have a complaint with Office's complexity, it's this: I run my PC at high resolution partly so that overhead is reduced—and with small icons, the printer looks a little too much like the clipboard. Accidentally print out 40 pages of notes when you intend to add another page, and you really *hate* that similarity… And, of course, I'll find a way to blame Microsoft for my own clumsiness!
- David Ranada writes for *Sound & Vision*. His January 2003 "tech talk" column discusses what you'd need for "the most realistic musical experience possible" at home, and seems to lament the fact that multichannel sound systems haven't gone that way. What would it take? Eleven or 12 channels: five in front (and two "height" speakers above), two on the sides, three in the rear. "Sadly, that's not the path the

industry has chosen." Technically, you could fit all that on a DVD-based disc that didn't provide video or expanded sampling rates. Of course, you'd need 11 or 12 speakers in your living room—and 11 or 12 channels of amplification. But hey, you'd get realistic music. There's a relevant term in high-end audio: "Spousal Acceptance Factor," or the willingness of the non-crazed members of a household to put up with all that gear.

disContent

Choices and Complexity

Human life tends toward complexity—towards more and more varied choices. That's a statement of belief, but I think it can be demonstrated by a clear view of history and the present.

Complexity is an important principle if you're trying to build new media and new ways to make content work. Following this principle, new media and forms of content must *complement* existing media; you can't assume that you'll *replace* them. That can happen, but it's a long shot—unless the existing forms are broken in a way that's apparent to users, not just to you.

Make New Friends…

At a simple level, it goes back to that camp song. "...But keep the old; one is silver, the other gold." We treasure what we know, for good reason. We look at the new in relationship to the old, and it's easier to view the new with interest if it doesn't conflict with the old or demand that we abandon it.

As always, "we" is an oversimplification. The extreme fringe of early adopters seems always dissatisfied with what works, always anxious to try the new. I think of this as the *Wired* crowd, but that's unfair to *Wired*. It's the crowd that believes new is better simply because it's newer; that "digital" automatically means "superior"; and, to be sure, that George Gilder is a demigod. Technology journalists and pundits tend to be extreme early adopters much more often than other people: why else do we get so many implausible new ideas written up as though they were inevitable. These days, treating the word "inevitable" as meaningful is another trait of extreme early adopters.

At the other (but much larger) extreme, many people lack the time, resources, or interest to try many new things. Consider the astonishing percentage of Americans who have never traveled outside their home state, never been on an airplane, never needed a passport. How many of these are ready to overthrow the sources and channels they know and love for your newfangled contrivance?

The rest of us are interested in new ideas but not desperate for them. We have lives, jobs, hobbies, families; we have magazines, TV shows, newspapers and authors that we enjoy and have no intention of abandoning. Most of us (at least in the United States) use the Internet to some degree—but that may mean little more than occasional email.

That's the "we" that values complexity but only as it offers *new* choices and that will resist change for change's sake. By now, you should be aware of the dangers in planning based on extreme early adopters—too many revolutionary ideas chasing after a relatively small audience.

Tell Me Something Good

We're willing to try something new if it offers an interesting choice. I believe we're more willing to try something if you *don't* tell us it replaces our old standbys, unless those old standbys are breaking down (in our opinion, not yours). We may be more willing to try it if there's a connection with the old.

The San Francisco *Chronicle* touted The Gate in its pages and still does from time to time. The newspaper suggested the Web site, with its discussion groups and free email newsletters, as a *complement* to the print paper. *EContent* does much the same thing—using its Web site and free newsletter to enhance the print magazine, not replace it.

Once we're reading online articles and essays, we'll try different forms—if they make sense to us and work within the overall medium. You already know what that means for content that you expect to be read online. If it's more than 500 words, you're probably in trouble. If deep analysis is needed, you need to find a way to layer it, make it easy to print, or both. Packaging still matters—context remains important—but the nature of packaging differs in the digital environment.

Will we abandon old media and content in favor of the new? Some of us will, to varying degrees and over varying time periods. But you'll be better off if we add you to our menus (within time constraints) instead of expecting us to remove something else.

Don't Lie to Me

We're not stupid. Let's refine that a little: The people you *need* as readers and buyers aren't stupid. With luck, we're skeptical rather than cynical. You're offering a new choice. Eventually, you want us to pay for it (directly or indirectly). You've couched your new approach in a way that shows us how it

relates to the approaches we know and love. That's good: we like choices, and it's always been true that we like choices that expand on what we already know.

There's a reason *National Geographic Traveler* advertises heavily to subscribers of *Condé Nast Traveler.* Travelers are more likely to consider a new travel magazine than are people who have shown no interest in travel. We'd be plausible candidates for an online travel site as well.

Don't tell us your new online travel site will do it all for us, and do it so well that we'll abandon the print magazines and our favorite travel agent. (If we don't book cruises or complex tours, we may abandon our travel agent anyway—but that needs to be our choice.) Such a claim will be untrue and it will sour our relationship with you. "The only *x* you'll ever need" is a dangerous pitch: most of us know better.

Too Many Choices?

Extremism in the defense of complexity is no virtue. Of course choices can go too far, and generally do. What's too far? That depends on the potential audience and their tastes and appetite.

It also depends on the choices themselves. I believe that people who make good candidates for serious Internet media are also people who dislike phony choices—who view the panoply of 40 different detergents with some disdain. (In this case, I have no real evidence for such a belief.) We want dozens—hundreds—of different restaurants offering different styles of food and setting; we're less interested in a new burger chain that's just like the other burger chains. We'll try out a dozen different online magazines, portals, and search engines—but when we see the same set of stories turning up over and over in different packages, we'll trim sites from our favorites list.

Growing complexity and a wealth of choices cause new sets of problems. That's a topic for other columns. Betting your business plan on a grand convergence and general willingness to abandon the old for (your) new is a good way to go bankrupt; finding ways to complement current choices with new ones offers a better bet.

This "disContent" column originally appeared in *EContent* 24:10 (December 2001), pp. 62-3.

Postscript

By now, you probably recognize that "disContent" assumes an audience in the digital content industry. While portions of this column may not speak directly to libraries and librarians, I believe it's relevant when thinking about "revolutionary times" and the need to overthrow or ignore old services so you can focus on new wonders.

The Good Stuff

Costello, Sam, "The new (improved?) wireless Web," *PC World* 21:1 (January 2003): 133-6.

Costello took seven portable devices on the road—wandering through the neighborhoods of Philadelphia—to see "how easy it is to get to the real Internet, anywhere." He considered connection speed, text messaging, the ability to find directions, phone quality, and how the devices handled e-commerce (Amazon and eBay) and air reservations (Orbitz). As with most real-world technology stories, it's a combination of triumph and frustration.

Looking to book? Toshiba's E740 PocketPC with Wi-Fi was good using Orbitz and T-Mobile's Sidekick (3G mobile) was acceptable; two 3G Palm OS devices did a poor job, and the Samsung 3G phone couldn't do it at all. The T-Mobile was great for directions, where the Toshiba was fair (as were the Treo and Kyocera 3G Palm devices). The Toshiba and T-Mobile were both very good for speed and messaging. But you can't make a phone call on the Toshiba—or on the Toshiba notebook tested using either Wi-Fi or 3G. That combination was otherwise excellent across the board with Wi-Fi, ditto except for speed and text messaging (good and fair, respectively) with 3G. I was surprised to learn that "approximately the same speed as on a 56kbps analog modem" was too slow for "browsing many Web sites": What have I been missing? And, as I've suspected ever since they came out, Costello found the Palm/phone combos clumsy as phones: "Both devices' touch screens rest against the side of your face when you use the phone."

His conclusion? "The near-term future of this just-emerging new generation of wireless-enabled devices isn't rosy." Maybe there isn't one perfect combination; maybe convergence only goes so far.

Kortan, Nick, "Stacking the deck," *EMedia* 15:11 (November 2002): 20-5.

This is a lengthy and useful discussion of graphics cards, possibly worth reading if you have high-end needs and want a sense of that marketplace. I do question a couple of points. First, right up front, is the assertion that "the 'standard' factory-installed graphics card simply cannot keep up" when you use a PC for digital content creation. That depends on the "standard" for your PC! Even last July, my mid-

range Gateway came with an nVidia GeForce4 MX card with 128MB RAM; many higher-end Gateway and Dell PCs currently ship with ATI Radeon 9700G Pro cards or nVidia GeForce4 Ti-4200 or -4600. Since those chips power most of the cards in this discussion, I'm not sure I see the distinction.

The other problem is terminology, and that's important in an article that tells the reader to "go wow the tech store employee with your newfound GPU I.Q." When you tell a *knowledgeable* store employee that you need exceptions to the "standard composite connector on every graphics card," you may get a strange look! The standard connector for PC graphics is *not* a composite connector; it's a 15-pin (DB 15) connector that separates Red, Green, Blue, and various clock and synch signals—almost precisely the opposite of a composite connector, in fact. If you're going to wow people with your knowledge, it's good to get your terms right.

Most PC graphics cards don't have composite connectors at all, although some with TV output capabilities might. A composite connector, which combines luminance and color information into a single composite signal, is an RCA jack, just like almost all audio connections.

Parry, Robert, "Price of the 'liberal media' myth," *Consortium News* January 1, 2003 (www.consortiumnews.com) and Neal Gabler, "The media bias myth," Los Angeles *Times*, December 22, 2002 (www.latimes.com).

Gabler believes the real battle isn't liberal vs. conservative, but whether journalism should be a light (that is, show the news) or a bludgeon (convince us of a point of view). As he points out, journalism as a bludgeon is an old tradition and was the standard in much of the 18th and 19th centuries—"a newspaper provided ammunition, not information." Today's right-wing "news"casters and commentators tend toward the bludgeon (including the supposedly-neutral Chris Matthews) while supposedly-liberal anchors try to maintain on-air neutrality.

Parry offers some history and asserts (correctly, I believe) that the solidly Republican ownership of media matters more than the voting habits of reporters. He offers a range of recent situations in which press coverage has fairly sharply tilted toward the right, aided to be sure by the constant cries of Liberal Press Bias. (It's fair to say that Parry is hardly neutral, but I can't argue with his facts.) Neither cites Geoffrey Nunberg's convincing statistical demonstration that liberal bias doesn't exist.

Starrett, Bob, "Decoding recordable DVD," *PC Magazine* 22:1 (January 2003): 74-5.

This two-page article does a decent job explaining the differences among the five recordable DVD formats. DVD-RAM offers the most rewritability, with claims of 100,000 rewrites, but the least compatibility with DVD players. It's increasingly likely to be the odd format out. DVD-RW and DVD+RW can handle a thousand rewrites, more than any sane person's likely to need—but they're *not* equivalent to hard disk rewritability. DVD-R and DVD+R are, of course, one-shot media: Once written, they can't be rewritten, making them better pseudo-archival media. The "plus" formats tend to be faster, partly because of certain writing details, partly because they don't require as much format-related overhead. All the types store 4.7GB (some types are available as two-sided discs storing—guess what!—9.4GB). Most writable DVDs, when formatted as DVD Video, can be read on *most* (but not all) contemporary DVD players, with the "R" versions tending to be more widely compatible than the "RW" discs.

"Study: Online polls skew to right," Reuters, posted on *Wired News* January 6, 2003, and Stacy D. Kramer, "Pew's candy is dandy," *Online Journalism Review* January 7 2003.

Yet another Pew Internet survey, this one on information seeking related to the midterm elections—and anyone who's surprised by this study hasn't been paying attention. Nearly half of Republicans who go online for election news like to participate in online polls, as compared to 28 percent of Democrats. Thus, Internet polls skew badly toward conservative views. The survey also showed that TV is still the dominant source of information: 66% of adults got election news from TV, and only 7% used the Internet as their primary source.

Kramer's commentary notes that the conservative skew in online polls "has seemed glaringly obvious for years"—and that online polls are pretty worthless anyway, since any concerned group can overload the mechanisms. (That's assuming that the poll is even worded honorably; "push" polls—ones designed to yield a certain result—are certainly not unknown.) Kramer notes that some reports on the Pew survey—such as Reuters—picked up the news that "television is still the main source for election news. (Franco is still dead, too, by the way.)" Indeed.

The Future Stuff: A Forecast Cluster

Glaser, Mark, "What will be in 2003," *Online Journalism Review*, posted 12/30/02 (www.ojr.org).

Glaser hedges his bets on these "outrageous predictions" by noting that he can't predict the future and by offering best-case and worst-case scenarios. His projections: Blogs really go mainstream; Web advertising at news sites moves to "interactive superstitials" that you must *experience* before reading the news; AOL takes drastic steps to retain subscribers; tablet PCs fade into the background—and come down very slightly in price; and the U.S. "wins the war on terror" with "implanted brainstem technology." Worth reading. He's having some fun along the way, leading to a prediction that contains a needed call for civil libertarians to speak up.

Pfeiffer, Eric W., "Top ten trends 2003," *Red Herring* 160 (December 2002): 31-50.

It's always interesting to track "trends" stories, particularly a year or two later. Here's one from a business perspective. In wireless communications, Wi-Fi will slow down 3G adoption (as though there aren't other reasons). "Virtualization" will be a big deal—that is, making all aspects of an organization's technology into a seamless unit. Venture capital firms won't be closing their doors—but there won't be much new capital either. We'll see improved security at the chip level. There will be a backlash regarding nanotechnology and its unintended consequences—as any science fiction reader could predict. (Amazingly, the "nanotechnology community" doesn't believe there are controversies to worry about.) Stock options may finally be reported as expenses, a "short-term disaster" for tech companies. We'll see more bankruptcies in telecom. Biotechnology will be "hot" primarily for companies that can sell products as defense-related. You'll see broadcast digital radio—but Pfeiffer notes that "radio is the last nondigital medium," which reveals astonishingly narrow perspectives (particularly appearing in a print magazine!). "Cable companies will soon control how consumers access the Internet, watch television, and even use their phones." Runners-up: Government action on spam; security spending; improved small fuel cells. A sidebar grades the magazine's 2002 predictions—and, of course, they spin things to make themselves out as fairly prescient. (For example: "Europe plays a powerful role in regulating the global high-tech industry." They assigned that an "A+" because an informal international organization on mergers and acquisitions was *formed*.) For all of this: I have no idea. Wait and see.

"The year ahead: Top ten technologies to watch," *ZDNet Australia*, posted 12/30/02 (www.zdnet.com.au).

I don't find a byline—and I'm not sure why this is from Australian ZDNet. But here they are: Wireless networks, location-based services, holographic storage, solar power (using "solar power paints"), radio-frequency identity chips everywhere; telematics; household robotics; cheaper LED lighting; gaming; and LCD displays, with 2003 "the first year in which LCD displays outsell CRTs."

My take: When the wireless "revolution" is cited as giving us "the automated, computerised home that we've promised ourselves since the 1950s," I say the odds of "us"—except a few crazed early adopters—getting or wanting any such thing in 2003 are pretty close to zero. Ditto for holographic storage actually reaching widespread use, billions and billions of RFID chips (although I'm sure there will be more this year than last), household robots as anything but toys for rich geeks. Otherwise, I wouldn't bet either way—although it's absurd to say that LCD's increased use for desktop displays is "bad news for other display technologies, both established like plasma and speculative, like light-emitting polymer." Why would that be true?

"What's hot for 2003," *PC World* 21:1 (January 2003): 92-104, and Manes, Stephen, "What's not hot (alas!) for 2003", same issue: 188.

What's hot? Five megapixel cameras that fit in your pocket, including $600 units from Kyocera and Olympus. Even more versions of 802.11. AMD's "Clawhammer" PC, a 64-bit processor. Blu-ray 27GB DVDs, maybe. Logitech's Io pen, a real pen that captures handwriting digitally if you use special paper (it's on the market, and it's a little bizarre). $450 for 17" LCDs. Movies on your PDA for "about $15 a month or $100 a year" with so much compression (and so little image) that a full movie fits in a 128MB file—in other words, *forty or fifty times more compression* than already-heavily-compressed DVD! (Why?) You'll pay for everything on the Web, "whether you like it or not." ("Slowly, inexorably…the Web is evolving into a great big subscription service.") See my December 2002 "disContent" column in *EContent* for my take on that claim. Also a new Office mostly notable for its embrace of XML; notebook DVD burners; the third or fourth "year Bluetooth takes off" so far; "long distance WiFi" (if the Defense Department doesn't object!); and more. These are all little projections, many of them "promising" units that are already being marketed. That makes for a high success rate.

Stephen Manes says truly effective speech recognition will continue to be "just a couple of years away;" combined phone/data units will continue to be flawed; we won't get really long-lasting portables;

HDTV won't suddenly win everyone over; and software will continue to do bizarre things. The long-lasting portable comment recognizes something too few technology writers have admitted: "Chemistry—as in batteries—is the most frustrating aspect of portable devices." True now, true last year, likely to be true in the future.

Perspective
Tracking the Forecasts

The problem with short-range predictions is that they can be tracked. So can medium-range projections, but that's tougher. Really smart gurus and pundits avoid dates altogether or develop Delphi-like predictions that *can't* be wrong. Let's look at a few projections from last year and how they've turned out.

Library Journal's editors predicted generally poor budget news for libraries, more progress in initiatives to ease the scholarly journal crisis, the possible return of filtering debates to local venues, a possible shift back toward practical instruction in library schools, possible pro-library, pro-consumer "good news" in digital copyright, more "portal" offerings from library automation vendors, more distance LIS programs, and foundations being laid by a "more sober" ebook industry that will lead to innovation "and eventually to the realization of the e-books potential in the years to follow." Some of these were already happening or vague enough to be indisputable. The only real "good news" in copyright has come from the courts in Sklyarov/ElcomSoft, unless the lack of further *bad* congressional copyright action counts as good news. I haven't seen any real innovation in the "ebook industry" this past year (I don't count University publishing as part of the "ebook industry"). The filtering debate is still primarily in the courts.

Bill Howard's "What to expect in 2002" in *PC Magazine* was fairly conservative. He did not expect watershed changes in PCs or notebooks; he did expect widespread adoption of 802.11b (Wi-Fi) but not significant adoption of mobile-phone-based wireless Web. He thought USB 2.0 might hurt FireWire in PCs; that cheap PCs would wipe out Internet appliances; that flash memory would take off; we'd get more in-car computing; and Palm and Pocket PC devices would coexist. He did not expect big success for tablet PCs and thought midyear would bring $500 17" LCD displays.

Howard was wrong on the last count—even in the Fall, you'd pay closer to $700 for a 17" LCD. Palm devices languished in 2002, but they didn't disappear. USB 2.0 did indeed hurt FireWire adoption in PCs—you can't buy a desktop from Dell or Gateway that doesn't have USB 2.0, but *none* of Dell's default configurations includes FireWire, and neither do default configurations in Gateway's low-end and intermediate lines. Internet appliances? Seen any Internet appliance ads lately? I don't know how to call the flash memory or car computing (telematics) predictions. On the whole, I'd give him at least 8 out of 10, maybe 9: That's remarkable. (Howard's 2003 "predictions" are buying suggestions and insufficiently interesting to note.)

I excerpted a few of many 2002 predictions from "12 information industry gurus" in the January 2002 *Information Today*. Some that I can gauge follow, omitting the predictors' names.

- **Right**: Increased linking from bibliographic databases to information sources. Nonprofit epublishing doing well with little recognition while ebook appliances do badly with hype. Slow, incremental adoption of XML.
- **Wrong**: Big money selling content via mobile devices; consolidation on the Web (if I understand "consolidation"). A "serious rethinking of cataloging." A single government-funded Web presence with the potential to create a public information infrastructure not seen since Carnegie built public libraries all over America (instead, resources are disappearing).
- **Unclear**: Increased public skepticism of filtering claims. Convergence everywhere—a matter of definition. More dot-bombs, including Yahoo!: Yes and no. There have been more failures, but Yahoo! isn't one of them. No chance of assailing unbalanced copyright laws: At least the Supreme Court is hearing *Eldred v Ashcroft*.

IDG's "8 hot technologies" for 2002 included security, electronic collaboration, peer-to-peer tools, fancy storage options, voice over IP, speech recognition, 802.11b LANs, and XML. I don't think anything special happened in storage (except that it kept getting cheaper) or voice over IP, I'm fairly sure that speech recognition was stalled in 2002, and XML is moving slowly.

PC World had 20 technologies that "*will* change how you work—and possibly even how you live," but with a copout on timing.

- **Right**: Hyperthreading on Pentium4 CPUs (just barely, in December 2002).
- **Wrong**, at least so far: 400GB hard disks. 1GHz Palmtops. "Bluetooth standard" and "high-speed cellular standard" on handhelds. XML everywhere. Mobile phones that "access the Internet at blistering speeds." MRAM—magnetic memory that retains data without

power. "Presence technology" and paying for *not* always being accessible. Fuel cells as realistic marketplace options. Electronic wallets backed by Microsoft security.

- **Unclear:** Next-generation instant messaging as "the mass-communication tool for the 21st century," a prediction that seems oxymoronic.

As usual (see "Good Stuff" in this issue), Stephen Manes offered some not-so-hot technologies for 2002: New computers leading to incredible productivity, downloading movies as a national craze, spam disappearing, cell phones sounding better than wired phones, great customer service, privacy more important than business, and Microsoft not overhyping products or misrepresenting its behavior. Despite MPAA's claims, there is no national craze of downloading movies; Manes is skeptically **right** on all counts.

An LLRX.com commentary included trends related to law libraries and some technology projections, including these—a good set of predictions!

- **Right:** More use of instant messaging. More use of cheaper cell phones, sometimes replacing landline. "The year of the wireless LAN." More widespread interest in copyright issues.
- **Wrong:** "An Internet renaissance based on multimedia."
- **Mixed:** A "chip on a keychain" to replace notebook computers: Not the computer, but you can put a lot of data on a 128MB keychainable flash RAM device.

How about LITA's Top Technology Trends group? The five "trends to watch" reported from Midwinter 2002 were security (viruses et al), self-publishing, storage and organization of mass data, new search interfaces, and broadband. The annotation on self publishing referred to amateur fiction, but the only real story here has been Weblogs (I believe, and it's a complex story). The state of the other four trends depends on definitions and closer watching of the library field than I've done. I'm sure we'll revisit those during this Midwinter's discussion and emerge with some new trends—and it's likely that I won't be one to make any useful predictions.

Other Voices, Other Fields

The "vaporware team" at *Wired News* issued its selection of the top 10 vaporware products for 2002—which, unfortunately, includes several items that were on the previous year's list! The current list includes: Silicon Film Technologies' Electronic Film System; a rebirth of the Amiga, either as a product or an OS; QuarkXPress for Macintosh OS X; the GeForce FX graphics card from nVidia; the Oqo wallet-sized PC that I made fun of last July, when it was still supposed to cost $1,000 (it's gone up to $1,600—but since it's still not available and the Website's static, it doesn't matter); and some games.

Doug Isenberg posted "Perspective: Internet law: the year in review" at News.com on December 20, 2002. His overall comment: "While headway was made on some issues, not much has changed since the beginning of 2002." Specifics: The end of the Microsoft antitrust act; warnings of cyberterrorism that don't seem well-based or helpful; deterioration of any progress on privacy; the death (and possible rebirth) of Napster; failed Federal antispam legislation but some state success; a second inconclusive Supreme Court decision on COPA; striking down the CPPA provisions banning images that *appear* to involve sexual conduct by children when no such conduct has taken place; the CIPA decisions; the "Dot Kids Efficiency Act"; the disappearance of Amazon's one-click patent suit against BN.com; the ElcomSoft verdict. Among issues to watch in 2003, he includes the likelihood that Congress will continue to introduce laws to eliminate some content from the Internet.

Finally, Mark Glaser offered a charming set of "Best (and worst) of online media in 2002" in a December 23, 2002 article at *Online Journalism Review* (www.orj.org). Bigger online ads aren't going away; neither are popunders at newspaper sites. Generalizations about the death of the Net were wrong. Weblogs may have proved their merit in journalism with the Trent Lott affair—and he thinks that Google News is a great thing. Read it for yourself.

Interesting and Peculiar Products

Why write about gadgets? Sometimes because they offer intriguing possibilities for libraries and librarians (the latter being a copout that lets me include almost anything). Sometimes because they're so peculiar that I can't resist the urge to comment. Which are which? I don't plan to add icons or emoticons, so you'll have to draw your own conclusions. It's been three months since the final "Product Watch" (the last of the "Watch" departments); that seems about right as an interval. These notes generally appear in chronological order—that is, I append notes to the column as I encounter product commentaries.

Who Needs Speakers?

A charming one-page "brave new home" column in the October 2002 *Sound & Vision* considers the

Olympia Soundbug, a $50 3x1" device that "turns any flat surface into a speaker." It plugs into the headphone jack of your notebook, CD player or whatever and has a suction cup to attach to said flat surface—preferably a "glossy, smooth, hard, flat surface" like a kitchen wall or window. Essentially, the Soundbug has the equivalent of a speaker's driving coil and uses the surface instead of a cone.

Speaker cones aren't just flat surfaces (and usually aren't flat); they're highly engineered materials. Laura Evenson tried various surfaces and settings but never got more than mediocre results—the best by using the top of a piano. Well, she did get one "better result"—by ripping the thing apart and applying the audio exciter directly to one of her teeth. "Talk about a seismic subwoofer! My mouth cavity produced the best soundboard yet!"

Her verdict: "Coolness factor: 10. Sound for the dollar: 5." But it sure is cute.

EyeTV

November 2002 saw more than one software oddity in *Macworld*. El Gato's $199 EyeTV can turn your Mac into a PVR/DVR (digital video recorder). There's a box with a cable tuner and hardware MPEG-1 encoder that connects to and is powered by a Mac USB port. Software provides the DVR functions, including an on-screen remote. This sort of functionality has been available for Windows for some time, at least with graphics cards like ATI's All-in-Wonder (and without extra hardware).

Here's a great sentence: "You can view live programs in windows of several sizes (even as large as the full screen) as you watch them." I always sort of assumed that I could view programs as I watch them, or even watch them as I view them.

That's an editing problem. The rest are more difficult. The normal size setting is 320x240 pixels, not a very big window on a contemporary Mac. "Anything larger…will result in a slightly pixelated and blurry picture." That's partly MPEG-1 encoding—*not* DVD-quality or close to it (DVD is MPEG-2). Even the highest data rate uses 1.2GB per hour, which isn't going to yield broadcast-quality pictures.

Did I mention that it takes several seconds to change channels?

Here's the kicker. EyeTV can't wake up your Mac. In order for recording to happen, the Mac has to be powered on and fully awake.

Macworld gives the toy 3.5 mice, a pretty good rating. If you want a DVR, wouldn't it make more sense to buy a DVR?

Incidentally, for those of you who do watch network TV, have you noticed one big problem with the program guides when you use the "easy way" to program a DVR or VCR? Some networks habitually start programs a couple of minutes before the hour or half hour; the programmed numbers won't handle that. When I want to tape an 8:00 to 8:30 p.m. show, I automatically enter 7:58 to 8:32, usually enough to catch everything.

Pantone Color Cue

Continuing in the November 2002 *Macworld* parade—which, incidentally, also includes quite a few perfectly sensible products that I don't feel the need to comment on, including a new version of Norton AntiVirus for the Mac—here's a $349 "cordless spectrocolorimeter the size of a flashlight." It serves one purpose: to determine the closest Pantone equivalent to the color of a physical sample. You know about Pantone colors? It's the standard system for defining spot colors for printing—that is, specific colors rather than full-color printing.

Theoretically, this is a neat accessory for graphics professionals—and $349 doesn't sound like much when you're in that area. There's just one little problem. When *Macworld* used the device to take color measurements directly from a brand-new *Pantone Coated/Uncoated Formula Guide*, the device gave the wrong color ten percent of the time. Whoops. The review gives it two mice. That seems generous.

High-Capacity iPod

I mentioned the new 20GB Apple iPod earlier, but it's worth noting *PC Magazine*'s review: Five dots, the highest possible rating. The close: "We say the best MP3 player just got better."

The Price of Two Feet

Is Samsung's new SyncMaster 241MP a big (24" diagonal) monitor or a relatively small LCD TV? It has computer connections and 1920x1200-pixel resolution—but it also has a TV tuner. Unfortunately, as with many LCD displays, you'll get smearing on TV and action DVDs. The device is sleek and comes with two external speakers—and it costs a shocking $4,100.

QuickView's Back

Remember QuickView and QuickView Plus? Some versions of Windows had portions of QuickView built in, and some of it comes with PowerDesk, offering the ability to view files without the hassle of starting up software—and letting you view files you don't have the software for. Jasc now owns the product and released QuickView Plus 7, $39 in a box or $35 download; it supports 200 file formats and offers a way to view most attachments without the risk of activating macros. The new version also lets you

explore contents of a Zip archive without expanding the archive—and you can use QuickView itself to add to a Zip archive or create a new one. The *PC Magazine* review gives it four dots. If you deal with a range of odd data format, I'd call it a bargain. (Unless I'm mistaken, you get the same viewing capabilities in PowerDesk 5 Pro for the same price.)

The Littlest MP3 Player?

Maybe not—but Creative Labs' Nomad MuVo is a remarkable device. It's a two-piece design. One piece is a tiny data storage device that plugs into a USB port. The other is a carrying case with battery power. It's about the size of a cigarette lighter (if you remember those), but weighs only one ounce. Not cheap—$130 for the 64MB version, $170 for 128MB—but about as simple as MP3-to-go can get, and it doubles as a "keychain drive" for data files.

Upscale Mouse

Logitech builds great mice, so you might expect great things from an $80 unit. According to Michael S. Lasky's brief review in the December 2002 *PC World*, the MX700 Cordless Optical Mouse is a "Lamborghini of a cordless mouse"—as long as you're right handed. It uses rechargeable batteries and comes with a sleek recharging base station. As a radio-frequency wireless, it works up to 30 feet away from the PC (which might make sense for presentations). It has extra customizable buttons that don't appear to get in the way. Its tracking is much faster and more precise than most optical mice.

Five Meg, Eight Zoom, $1,200

That's the new Nikon Coolpix 5700, probably about as high-end as a consumer digital camera's likely to get. That's 8x *optical* zoom, the only kind that retains image quality: the equivalent of a 35m to 280mm film lens. Unfortunately, as with most zoom digitals, you must use the electronic viewfinder to see what you'll actually get; for an optical viewfinder to do the job, you need a true SLR. The review in *PC World* (December 2002) is unenthusiastic: "The product impressed me less than I'd hoped it would."

Not Hand-Cranked, But Close

Although I can admire the enthusiasm of some audiophiles for "sweet sounding" tube equipment, I still suspect that the correct term is euphonic distortion—where the equipment "makes nice" with whatever it's fed. Tube audio equipment may be quaint, but what about the $240 AOpen AX4B-533 Tube? It's a PC motherboard—with a vacuum tube to support the audio circuitry. According to Joel Strauch's review in the December 2002 *PC World*, "Music played back on the machine sounded as smooth as butter."

Of course, this being a PC magazine, nobody thought to test the output to see whether it accurately reflected the input (e.g., from a test CD). In my naïve view, "good sound" should be transparent sound. The audio board should reproduce what the artists and engineers put on the CD. Strauch finds himself agreeing with "old-school audiophiles" who claim that "tubes provide richer tonality than today's solid-state amplification"—but the circuitry on a sound card has almost *nothing* to do with today's solid-state amplification. In fact, Strauch *was* listening to solid-state amplification in his Cambridge SoundWorks speaker set. That's where the amplifiers are on PC sound systems.

There's also a matter of reliability and practice. Tubes take a while to warm up and suffer considerably more than transistors from power-up/power-down transients. Is the user supposed to leave this PC on all the time? Will fans run faster and louder to handle the extra heat from the tube?

It would be interesting to see a head-on comparison of PCs using this motherboard and, say, a standard motherboard with a Creative Labs Audigy soundcard—particularly with measurements of accuracy and distortion as well as reviewers' comments.

Big, Flat, Reasonably-Priced

No sarcasm in that headline. As reviewed in the January 2003 *PC World*, the $699 WinBook Display C1900 and $999 Samsung SyncMaster 191N can't be called "cheap"—but for 19 viewable inches and the advantages of an LCD (given how big and heavy 19"-viewable CRTs would be!), those aren't terrible prices. Both display 1280x1024, so you're not gaining resolution as compared to a good so-called 19" (18"-viewable) CRT (which would probably cost around $350-$450 today)—but these are still breakthrough prices. Both monitors swivel to portrait orientation, but only the Samsung includes the software needed to support swivel mode.

ReQuest Multimedia

I'm not going to comment on this particular product category in general—that is, "digital audio servers" to play MP3 or CD audio files on your stereo system. You probably already know that I think it's a little ludicrous to dedicate $2,500 to a box that consists of a 40GB disk, a CD drive (player, not burner), an Ethernet connection, and software that appears to be roughly as sophisticated as MusicMatch Jukebox. (OK, there's a little LCD display as well.) Maybe a $399 PC wouldn't do just as well—the fan noise might be annoying—but you can

buy a Dell notebook with 40GB hard disk for less than $1,200 and you'll have a decent computer as well as an audio server. (At worst, add $130 for an audio-output card that bypasses internal noise.)

But that's not even the point. Maybe it's worth paying a $1,200 premium to have an inflexible device with a single purpose. What gets to me is the price differential for a 60GB drive: $500 extra for 20GB. (The 60GB version costs $3,000.) As I write this, name-brand high-speed 60GB hard disks cost $90 to $105 *total*. The differential between a 40GB and 60GB disk, quantity one, at a price that presumably includes profit for the dealer, should be no more than $15 to $20.

Yet Another Double-Density CD-R

A couple of years ago, Sony released a double-density CD-R drive: Along with standard 700MB discs, this gem could also write special 1.3-1.4GB CDs. Of course, the only drives that could *read* the discs were Sony drives. While the unit came to market, Sony didn't push it and probably recognized it was hopeless fairly early on. But that hasn't stopped Sanyo! The new CRD-BPDV2 features "HD-Burn," capable of writing 1.4GB to an ordinary CD-R blank by burning smaller pits and "using an improved error-correction system."

IDC's Wolfgang Schichtling likes it "because the drives will be less expensive than DVD burners and use similarly inexpensive media." He recognizes that the "window of opportunity" is narrow. I'd wonder whether there is such a window: What's magical about 1.4GB?

You know the kicker already: Only the Sanyo drives can read the 1.4GB discs. Oh, but wait: Sanyo says DVD drives can read them "after a firmware upgrade," which Sanyo will make available for free. The drive is on the market in Japan, with no current announcement of U.S. availability. I wouldn't hold my breath. DVD burners have already dropped below $250 retail and blanks are under $2 in small quantities. Within a year, the differential between a CD-RW drive and a DVD-RW or DVD+RW drive is likely to be less than $100. That doesn't leave room for an intermediate medium, in my opinion.

Disposable Cell Phones Yet Again

Some really dumb ideas keep coming back: Ways to create even more garbage in the name of convenience. I give you the Hop-On cell phone. You buy it for $40, preloaded with 60 minutes of time. It's the ugliest cell phone I've seen in years—but hey, when your hour is up, you just toss it in the trash.

You say $40 for 60 minutes seems a little outrageous? No more so than throwing cell phones in the garbage after an hour's use. The *Computer Shopper* writeup on this nonsense (yes, of course, other companies plan to introduce similar devices) couldn't find analysts who favored the idea. The comparison to "disposable" cameras doesn't work, because those aren't disposable at all. Kodak claims to recycle 100% of the parts in a "disposable" camera to make new cameras, and I know of no way to *look* at the pictures you take with a preloaded camera than by sending them to Kodak directly or indirectly.

Churning Out CD-Rs

If you have a garage band, do your own technopop on your PC, or have library projects that could benefit from short-run CD production, you need to know about this: Primera has introduced a CD production system cheap and compact enough to be worth considering. *PC Magazine* reviews the Primera Bravo Disc Publisher in its January 2003 issue, giving it a perfect five dots. The $1,995 workstation combines a 48x CD-R drive, fast-drying inkjet disc printer, and robotic disc-handling arm into "a chassis the size of an ink jet printer." Connect a contemporary PC (450MHz or faster, 256MB RAM, 2GB spare disk space, FireWire and USB ports) and you can drop a stack of 25 CD-Rs, start it up, and walk away. The printer is 2400x1200dpi, but you will need (of course) printable CD-R blanks, which are a little more expensive than the cheapest blanks. In a test run using a 77-minute audio CD, it took just under 25 minutes to record and print five copies—and no handholding. Combined CD-R/printer/handling stations aren't new; the price and relatively small size are. (Primera makes a similar DV+/D-R desktop publishing system for $500 more.)

The Details

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