

*Silicon Snake Oil -- Second Thoughts On The Information Highway*

Clifford Stoll (New York, 1995)

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"In 1986, the budding Internet linked perhaps sixty thousand people," writes Clifford Stoll. "Today, there's well beyond two million online. And a hundred thousand more join every month. What once felt like a small town is now a congested, impersonal New York City of the mind, where you no longer recognize the person who's talking to you" (Clifford Stoll. *Silicon Snake Oil*. New York: Doubleday, 1995, p. 8).

Clifford Stoll is an old AOL (not Acme Online) guy from Oakland, CA, an astronomer and online maven active from the vintage days of the academic Arpanet (for data transfer between astronomers); in 1986 he brought down a group of cyberpunk hackers selling info to the Soviets--how dare they!--what kind of respectable anarchy is this? Stoll watched the early days of internet cooperative communities develop into the big electronic "neighborhood," with e-mail, chat lines, FTP (file transfer protocol) and listserv discussion groups. "But what a price!" he exclaims. "Simply keeping track of this electronic neighborhood takes a couple of hours every night. I find myself pawing through internet archives or searching for novelties over the World Wide Web. I spend still more time downloading files and following newsgroups. Bit by bit, my days dribble away, trickling out my modem" (p. 2).

*Silicon Snake Oil* is an incidental history of the online world, an expert, personal, rambling critique of a whole lot of media-bandwagon Infobaun hype, and a humorous warning to us potential obsessive-compulsive, mostly-male CRT-addiction candidates: VR user beware! Virtual reality costs real time! Vote Independent, vote Max Headroom.

RELATIONSHIPS: "Jenny Frost is an audio producer in New York," and one of Stoll's many endearing references. "She described how her husband got tangled up with his modem. She'd bought him the computer game *Myst*, and he fooled with the program every night. After getting stuck on a clue, he'd log onto America Online, looking for ways to solve the mystery. 'Inside of two months he was spending evenings on the bulletin boards, chatting with others, learning the intricacies of this computer game', she told me. 'That fifty-dollar computer game ballooned into a four hundred dollar network bill.'" Wonders Stoll, "Is this why we promote universal connections across the country? The mental entrapment without physical interaction undermines social relationships and the disorder seems to be gender specific. We're fostering a wave of computer widows" (pp. 24-5). Stoll poses the question: "Why are both drug addicts and computer aficionados both called users?" (p. 136).

Stoll decries evenings at home spent collectively before TV screens or in isolation before personal computers--"safe havens in which to hide. Sitting around a porch and talking is becoming extinct, as is reading aloud to children" (p. 58).

CULTURE: "Then there's the myth that our computer networks will bring diversity, culture, and novelty into our classrooms and homes. I hear this alongside the rapid expansion of cable-television systems--they promise five hundred channels that will let us pick an entertaining and informative program from hundreds of offerings. Reminds me of the pronouncement, in 1939, of David Sarnoff, the CEO of RCA: 'It is probable that television drama of high caliber and produced by first-rate artists will materially raise the level of dramatic taste of the nation'" (p. 21); the satire gets almost Kierkegaardian.

EDUCATION: Scattered throughout *Silicon Snake Oil* are warnings about the colliding realms of education and the matrix, the online world. He argues that PCs not only don't enhance literary skills, they

tend to hamper the general teaching enterprise and overall classroom experience. "Instead of an Internet-inspired renaissance, mediocre writing and poorly thought-out arguments roll into my modem. E-mail and postings to network newsgroups are frequently ungrammatical, misspelled, and poorly organized. After trolling up and down the Usenet, from *alt.best-of-usenet* to *zer.z-netz.telecom.modem*, I rarely find prose that's articulate and creative" (p. 26).

Then there's the ambiguous messages we give our kids. We tell them the Net "is a fountain of knowledge, a source for valuable information, and a helpful form of communication," at the same time we tell them "to be politely but firmly skeptical..., reject[ing] images or communications that repel or frighten them..., that people aren't always what they present themselves as, that predators exist on the network. We know how to keep kids away from red-light districts and sleazy adult shops. It's harder to keep them from downloading porn or chatting with sleazy adults" (p. 135).

Again, Stoll is not against computers in schools, nor is he against the value, while limited, of the computer as a *teaching aid* similar to filmstrips, television, or overheads. Stoll simply wants to be a check against the slash-and-burn technology blitzes he sees taking over many school budgets. "In the past, schools tried instructional filmstrips, movies, and television; some are still in use, but think of your own experience: name three multimedia programs that actually inspired you. Now name three teachers that made a difference in your life" (p. 117).

"Computers are lollipops that rot your teeth', says Marilyn Darch, who teaches English at Poly High School in Long Beach, California. 'Kids love them. But once they get hooked, they get bored without all the whoopee stuff. It makes reading a book seem tedious. Books don't have sound effects and [the kids'] brains have to do all the work'" (p. 140).

Now, this question of schools and computers is a bit more complicated than Clifford Stoll and Marilyn Darch's quotation would lead one to believe. It is true one doesn't learn proper grammar, or Strunk and White style, or literary criticism, or good metaphor usage and figurative discourse, or deep semantic structure, from a computer or word processor. One needs an English teacher that knows how to teach, and one needs to read quality literature and develop their analytic skills, and one needs to learn, over time, how to write and rewrite and edit and rewrite and polish. Nonetheless, computers do make rewriting and editing easier to teach and easier to learn quickly. Anyone who has slaved over a term paper or college dissertation knows how the efficient screen editing capabilities of a word processor can accelerate a student's getting from a first draft to multiple rewrites; and it helps a teacher point out good and bad work over a few hours, or at least a few days. Before computers, students might have time for only one or two rewrites over a much longer span of time. Often students got discouraged, tired of handwriting an essay over and over again (or slow-typing, if they knew how). Years ago, a teacher would be hard-pressed to demand the multiple rewrites that computers now easily afford.

Therefore, the point that Stoll makes, that computers don't replace good teachers, is basically correct, if a little over-stated. What *is* needed is not "fancy computers with modems and fiberoptic links, [but] smaller classes, supportive parents, and the respect of our communities" (p. 142).

TIME: Then there's the frustration of countless hours lost in confusing glitches, lock-ups and buggy-errors like GPFs (General Protections Fault in Line F000:EFGF!) or FSEs (Fatal System Error!) or FHEs (Fatal Human Error!)--who can tell the difference? We find ourselves drowning in inexplicable documentation troubleshooting-chapters, mysteriously unhelpful help-menus, and those inevitable, software/operating system conflicts (can't just pull them apart and send them to the principal). How many times have I found myself compelled to *reload* programs, which seems to solve the problem--*for a time!*

"Just as computing is supposed to make our home a better place, it should also make our workdays more efficient.... That's not my experience. I spend almost as much time figuring out what's wrong with my

computer as I do actually using it. Networked software especially requires frequent updates and maintenance, which gets in the way of doing routine work" (p. 30). (And Windows 95 and NT have not made the situation any better, either.)

I sympathize completely with Stoll' frustrations. On the other hand, how many times have I had to rebuild my space heater to keep it going another winter? Or the old JVC cassette player? Pulled it apart a half dozen times to rebend the auto-stop switch and restring the analog radio dial. Every two years the back porch needs staining. My daughter and I tune up the cars and motorcycle a couple times a year, replace headlights, put on new belts and hoses, resolder wiring harnesses. Technology. The industrial revolution. We are the descendants of the inventors of such modern "conveniences" and we must pay the price for all the comfort, convenience, and ease. I suppose computers are no different on this account. Vacuum them out, clean the drives, maintain and defrag the hard disk, sort files, *keep the backups up to date*, backup the backups, and on and on. "Networks bring a flood of both useful and useless info to our desktops. They help me work more efficiently yet still are often counterproductive--they're equally great for working and goofing off" (p. 96). "When it works, we grow to depend on it; when it fails, we're high and dry with nobody to turn to" (p. 100).

**PUBLISHING:** We writers are especially interested in this new market trend of online publishing. Will it simplify and streamline the submission and publishing process? Is there a new, lucrative market on the Net? "Network junkies excitedly tell me that self-publishing leapfrogs over publishers, editors, and broadcasters.... But the reality is that with millions of users posting messages [and short stories and poetry and editorials] to the network, the valuable gets lost in the dross. There are no pointers to the good stuff--you don't know which messages are worth reading. You can select by subject area, but there's no way to pick only the interesting comments. With everyone able to upload their works to the network, the Internet begins to resemble publishers' slush piles. It's up to the reader to separate out the dross [a massively time-consuming project at best]. What's missing from the network are genuine editors" (p. 38).

**REALITY-CONNECTEDNESS:** A central concern of *Silicon Snake Oil* has to do with what I have called in *KillWare* "post-virtual epistemic stress disorder" or PESD ('epistemology': knowledge acquisition and belief formation). The more time one spends online (gaming, chatting, posting/reading, AOLing, MOOing, MUDing, flaming, ranting, raving, shopping, late-night-porno-GIFing, aimlessly, hauntingly, NetSurfing and gendersurfing through endless adverts, alt.sites and cyberzines), the more one estranges oneself from the physical world of real people and real stuff and real life and real problems--and real solutions. "Computer networks," says Stoll, "isolate us from one another, rather than bring us together. We need only deal with one side of an individual over the net. And if we don't like what we see, we just pull the plug. Or flame them [inundate them, the listserv, the chatroom, with nasty e-mail]. There's no need to tolerate the imperfections of real people. It's the same intolerance found on the highway, where motorists direct intense anger at one another" (p. 58).

Of course there are exceptions. There are individuals who connect online, only to eventually become close REAL WORLD friends, outside the online. Neither is Stoll referring to e-mail communications with people we already know in real life, outside of e-space.

We as humans--creative, social sapiens--we have traditionally struggled with questions about what is real and what isn't. What is true? What is truth? Where does meaning lie? What we epistemologists call "reality-connectedness." Spending long, isolated hours in virtual space does not help this situation; rather, we are becoming aware of a growing epistemic disfunction amongst long-term computer users. (Recall Stoll's question, "Why are both drug addicts and computer aficionados both called users?")

**INFORMATION QUALITY CONTROL:** Another concern voiced in *Silicon Snake Oil* has to do with Internet information quality control. It may be the single biggest problem online, that, when "casual users and serious researchers place their trust in the accuracy and completeness of data on the network...they're relying upon information of unknown pedigree and dubious quality, since little on the Internet has been refereed or reviewed" (p. 125).

**THE HYPE:** Clearly, it is the Internet-pushers which bother Clifford Stoll the most. Bottom line: Clifford Stoll is bummed with all the Internet hype! "Today's Internet hustlers," writes Stoll, "invade our communities with computers, not concrete. By pushing the Internet as a universal panacea, they offer a tempting escape from this all-too-mundane world. They tell us that we need not get along with our neighbors--heck, we needn't even interact with them. Won't need to travel to a library either, those books will come right to my desk. Interactive multimedia will solve classroom problems. Fat pay checks and lifelong employment awaits those who master computers.... They truly believe in virtual communities and electronic classrooms.... The computer is the key to the future.... The key ingredient of their silicon snake oil is a technocratic belief that computers and networks will make a better society. Access to information, better communications, and electronic programs can cure social problems" (p. 50).

*Silicon Snake Oil* is, Stoll reminds his readers, "just second thoughts," hesitations, a stepping back to review the past ten years and what's good and what's disturbing about the Net, about virtual reality and other cyber trends. While sometimes overstating his case, Stoll presents a healthy skepticism with which to resist the constant "computer solutions" media-hype bombarding us daily. "While the Internet beckons brightly, seductively flashing an icon of knowledge-as-power, this nonplace lures us to surrender our time on earth. A poor substitute it is, this virtual reality where frustration is legion and where--in the holy names of Education and Progress--important aspects of human interactions are relentlessly devalued." Stoll is not a Luddite or "lowtech"; though, after reading this book, some may accuse him of it. Computers and the Internet are just tools, useful, but with the same sorts of limitations found in all gadgets and technology toys. It's simply that "the medium is being oversold, our expectations have become bloated, and there's damned little critical discussion of the implications of an online world" (p. 4).

What I like most about Clifford Stoll's book is that it shows respect to those of us who, even ever so slightly, hesitate in our zeal over the latest information technology, who don't feel compelled to go out and buy every new WordPerfect (now, Corel) or Windows upgrade (I still use WordPerfect 5.1), who believe our schools should not dump their special education and gifted programs for fifty new Pentium 300s with 17 inch monitors, 33.6 modems, unlimited Internet access, and soundblasted 40X-CDRom drives, in order to replace all the old, "horribly outdated" 486's. Thanks, Cliff.