Ethics and the New Information Technology

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by

Stephen E. Arnold
Vice President
Information Access Co.

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Every new technology imposes changes in the social *body. But in the face of these changes it is highly useful to understand whether they occur because of a new channel, a new code, a new way of articulating the code, the things the message* says *in articulating the code, or the way a certain group is disposed* to *receive the message.* Umberto Eco [1]

Want to kill a conversation? Bring up ethics. Want to make a computer scientist whimper? Ask about shipping software before he kills the bugs.

You know this: ethics is no cocktail-party topic. On the agenda at most business meetings? Nope. Information Industry Association hot topic these days? Sure: say "copyright" and a hush falls on the assembled database producers, telephone company executives, and timesharing vendors. Right and wrong seem far removed from the real business of America-making plenty of money fast and hitting the beach.

Ethics, according to my well I-worn *Webster's Seventh* is:

. The discipline dealing with what is good and bad and with moral duty and obligation
. A set of moral principles or values
. A theory of system of moral values
. The principles of conduct governing an individual or group. [2]

Pounded Senseless

Are information ethics irrelevant in the U.S. in 1989? Changes come so rapidly that the social *body* of the United States of America reels like a Mike Tyson opponent. From an unrelenting adversary's turbo-charged

punches, the United States of America has that part of its brain that tells right from wrong fogged. With its guts aching and synapses out of sync, the former World Champion's headed for the canvas. In this case it's not 16-ounce gloves. The old one-two is information and technology.

I know that my ethical barometer's out of kilter. I'm neither troubled by the fetal Jim Bakker nor amused by Tammy's porcine bleats. I think, *Didn't I just* witness *a baker's dozen of preachers with their lawyers and mistresses on "Geraldo"?* Although I try to hide between the covers of books, I carry around a surfeit of information about fraud, murder, theft, larceny, Columbia drug killings, and peccadilloes great and small.

This information comes to me and you from electronic sources, not first-hand experience. I agree in part with Umberto Eco, the Italian scholar, who says, "When the mass media triumph, the human being dies." [3] I would revise his observation to say, "When *electronic information* triumphs, the *ethical* human dies." The U.S.A.'s electronic information bombardment is like a neutron bomb. It kills one's ethical judgment yet leaves the physical body.

Defining Electronic Information

What do I mean when I use the words *electronic information* technology? They include "any communication which relies upon electronics in *any* way." My definition intentionally embraces any information transmitted or consumed through the agency of electronics. I include commuters listening to the car radio and children watching a video at school as well as money machines, CD-ROMs, microwave communications, and telephones. I make the denotation broad because I believe that we U.S.-ers have not paid attention to the basic changes electronic information technology has ignited. Other countries, despite demonstrable progress, lag in creating a comprehensive information *environment,* an idea to which I'll return in a moment.

It is important to remind ourselves that neither technology nor data can have ethics and demonstrate ethical behavior. Only people can. But in the U.S.A. it is hard to find ethics in many aspects of life, not just information and technology. Speaking before a U.S. trade committee on 19 September 1989, Thai medical Professor Prakit Vatee-Satokit addressed the issue of American tobacco companies pushing cigarettes in his country. He asked, "Where is the ethics? Where is the morality...the

great American conscience?" [4] I don't think that ethics have died; they aren't relevant in our society's environment, or, what I call our *datasphere.*

U.S.-ers' Datasphere

On the threshold of the 1990s (maybe the Nasty 90s?), I need to label this place I call home. I grabbed the term *datasphere* for two reasons:

> . It connotes an environment. I think of the U.S.A.'s datasphere as comparable to my goldfish's watery abode. It's not easy for a carp to figure out the difference between the reality of the water in which he lives and the reality visible through the glass of his bowl. In many ways, we're in this same perceptual kettle of fish.

> . Datasphere reminds me of the role of electronic information in the wired habitat in which we U.S.-ers dwell. Like my fish, I forget that what we and others see through our electronic walls are different realities.

The U.S.A.'s datasphere is unique. It allows, even encourages, us to escape into our own private worlds. Let me cite one example: Nintendo games. A psychologist says, "It's unlike watching television in that Nintendo allows you to create a little world on your own. The games are getting smaller and more portable, and they're giving people a more personalized environment. But there's no collaboration involved, no working with another person. The games promote a model of individual, of an adversarial concept. You're always facing enemies in the world. That's not the best message to communicate to a child." [6]

Electronic information is the "stuff" of the datasphere.

Origin of the Datasphere

The datasphere began with the first commercial telegraph message in the middle of the 19th Century. Whether historians of science attribute the act to William Cooke and Charles Wheatstone in 1839 or other innovators makes little difference. The telegraphs was the Big Bang in the information universe.

Why7

The telegraph allowed for the first time the fusion of four rare elements into a self-sustaining system that would prove more potent a fuel for growth than any other single innovation in the last 150 years. The telegraph fused:

. Speed
. Technology
. Information
. Money.

A handy acronym is "STIM," for STIMulation. The telegraph screamed, "The faster information moves, money results." People heard and acted. Technology enables the process. The message "*This* fee/s good" reached investors and innovators, and now life is these United States is just a fishbowl of electrons. The key point is that the interaction of speed, information, technology, and rnoney is systemic and environmental, not linear and one-dimensional.

John Naisbitt, quite incorrectly I believe, popularized the catch-phrase, "We are drowning in information." But our datasphere's speed-technology-information-money system doesn't behave quite like water. Getting a firm grip on the STIM system is like trying to predict the weather...only with a big difference. When we dial in more of any of the Big Four (speed-technology-information-money), we shoot steroids into the mainline. As the rate of change goes up, stability decreases. We get to live in this environment and cope with the data weather. Sure, sorneone can drown, but others-millions of them-chill out in the soothing breeze of Monday Night Football. Wall Street mavens can get their heads blown off by sticking their necks out when a tornado of financial data rips through. Well, some parts of the datasphere ain't exactly Kansas, Toto.

Data Chaos

Like weather, the speed-information-technology-money warm and cold fronts create complexity. What we lamely refer call information products and services disguise STIM's Big Four. Our lack of a systemic view of speed-technology-information-money leads to the zany predictions about videotex, ISDN, CD-ROMs, OS/2, online, and just about any other category of information product that comes to mind. We're trying to predict the weather in Peoria with a local thermometer reading without knowing about systemic interaction. Armed with every prediction tool available, the National Weather Service can't predict with certainty the

weather anywhere. Little wonder, then, that my colleagues and I underestimate the wildfire spread of facsimile and overestirnate the number of folks who will habitually log on to online databases and pay for the thrill.

We ignore the datasphere's information-manufacturing function and gamble on marketing to control the behavior of chaotic forces. The expansion of speed-information-technology-money is exponential. We have created an environment in which our four factors multiply by *datagenesis.*

A new technology enters the datasphere and appears to have no significant impact. Out of left field comes another developrnent, and a temporary restructuring takes place. Online had an impact on paper-based research. CD-ROMs have an impact on online. Now WORM is having an impact on both online and CD-ROM as well as changing the capabilities of local area networks. In the midst of this visible activity, local and regional money-machine networks have exploded. I pay a quarter to withdraw cash from checking. The data associated with that single action ripple through the system manufacturing bits like microchip gerbils.

Trying to predict how all or part of electronic systems interact is the 1990s version of the myth of Sisyphus. One information company can raise prices and experience a dramatic increase in revenue and customers. The managers are unable to explain why this happens. Another company can literally give away information and fail to attract any customers. The STIM paradigm giggles at the B-School Rules U.S. executives have ritualized. The faster change comes, the more difficult it is to know in which direction to push our rock and stay out of its way when a new hill materializes under our nose.

The datasphere's expansion capacity is infinite. It expands outward. Thus, as the datasphere grows, the systems become larger and more complex. Simultaneously the details of the datasphere, the bits and the bytes, elaborate themselves as well. Get close to the datasphere and its behaves like a fractal. The darn thing is infinitely complex outward and inward. Since we're ill-equipped to know how complex systems work, chaotic behavior seems to become increasingly frequent.

What's ahead for U.S.-ers in the 1990s? One thing's dead on: we *will* be living in interesting times.

The U.S.A. as ODC

Daniel Boorstein's *Hidden History* reawakened in me an awareness of the U.S.A.'s deep-rooted tolerance and encouragement of individuality. This delight in novelty plays an important part of the U.S.A.'s ethos. [5] Don't get me wrong. I like the U.S. of A. But I have the feeling that I'm living in a cowardly new world. It is a surreal blend of the Wild West through the lens of Hollywood, post-war Europe, and a banana republic.

I reside in a unique country which has journeyed once more where no nation-state has gone before. Since Sputnik, the United States has evolved from a developed country like England or Japan into an over-developed country (hereinafter, ODC). Our nation is like the athlete who has pumped iron, gobbled steroids, and undergone visualization therapy in hopes of becoming the performance machine. The result is that the U.S.A. has become an amusernent park. Disneyland and Las Vegas blend to create Xanadu for dabblers and dilettantes. The U.S.A. has abandoned the plow and mill and seized the TV's remote control. We let others manufacture, we consume.

Our newly-minted ODC exhibits the following characteristics:

. An exponentially increasing information flow
. Ever-accelerating pace of technological change
. Declining efficiency in basic service systems
. Erosion of literacy among the underclass and increasing specialization of knowledge in the upper class (the YuppiElite)
. Assets and real property moving from U.S. ownership to non-U.S ownership
. Decline in the number of people participating in the democratic process
. Shift from a manufacturing base to a service business base
. Thinkers, not doers, with unsurpassed skill in developing concepts and little skill in implementing processes to exploit these ideas
. Inability to see the global market and the large-scale issues which drive the economies of the rnost productive countries

. Failure to take a strategic view because of an excessive preoccupation with here-and-now

. Addiction to instant gratification and amusement in electronic or chemical form.

As stark this list is, one other characteristic warrants comment. Debt is a corollary for *under-developed* and *less-developed* nation-states. These folks are in the minor leagues when compared with the U.S.A. The 17 September 1989 New York *Times* reported on the first page of the Business Section that "For the first time in decades, the balance of trade in the services and investment sector of the economy posted a deficit. In the second quarter [1989], all of the components of the trade balance became negative because of that loss. The shift reflects growing foreign ownership of American assets and increased borrowing from overseas." The story offered a comment by Pat Choate, Vice President, policy analysis, TRW Inc., who said, "To anyone who can computer figures on a computer rather than on a napkin it is an indication of our net debtor status." [7] I have not exhausted the concept of the ODC nor completed a thorough analysis of the idea and its ramifications. I will leave that task to those more qualified than I. I take some comfort in knowing that other countries will achieve over-development. The datasphere creates our future ever faster as time synchronizes with the oscillation of quartz crystals. Science-Technology-Information-Money: yes, sir, the Big Four put some pepper into our system.

Virtual Realities

The datasphere lets each of us create our own worlds. We don't have one reality; we have the luxury of many virtual realities. A virtual reality is an electronic construct. Technology and information don't have ethics. People can. Some of them are ethical by our standards, others aren't.

At the Information Industry Association conference held in New York in September 1989, I took a break from the heavy petting which passes for thinking at this meeting. From the lobby of the New York Hilton with electronic music as background, I watched pedestrians without *looking* step over a sleeping bag lady who lay on the sidewalk. I realized that in our virtual realities we see and do what we want to see and do. The datasphere gives us the power to create a virtual reality and live by the ethics appropriate to that reality. Unless we share virtual realities, we cannot share ethical systems.

In 1907, William James was darn confident when he said, "True ideas are those we can assimilate, validate, corroborate, and verify. False ideas are those we cannot." [8] What would the father of pragmatisrn the virtual realities nurtured by the datasphere? Would he become a crack-head, a couch-potato, a white-rapper, a computer nerd, a soap-fanatic, a Trumpoid, or a word-processing professor? It's unfair, of course, to take Professor James to task when he could conceptualize a datasphere in which virtual realities are reality.

Masking

The most obvious consequence of this formula is input. Have we got input. The volume must be regulated. Popular writers have labeled this trend nesting and *cocooning.* Here's another less-well known phenomenon, *masking.* Masking is the use of datasphere resources to live vicarious lives. In 1983, Ric Manning and I created Plumb: Bulletin Board Systems, a newsletter to report on the then-new phenomenon of bulletin board systems. Mr. Manning covered one of the first CompuServe users' conventions shortly after we started the newsletter. He tells a wonderful story about a conversation among a group of CBers, the name given to the online conversation service, two middle-aged men said hello and exchanged handles. The larger of the two fellows said with obvious embarrassment, "You're Long Tall Sally! I don't know whether to kiss you...or hit you." This is one consequence of a shared virtual reality (now hang on, Professor James) colliding with an equally valid reality. The datasphere is a Crash-0-Rarna of these intersections.

The more powerful the information winds, the greater the American retreat into private worlds of VCRs, cable TV, audio equipment, personal computers, and other datasphere toys. In the rnidst of the chaos of Manhattan or the serenity of Arches National Park, a Sony Walkman helps shape reality. Video rental stores like Blockbuster nuke the library with their neon lights, extensive holdings, round-the-clock hours, and their ability to provide instant, unrestrained, novel virtual realities to anyone with $3.00. In the U.S.A. we have 300 million people each with several virtual realities. Making a conservative guess, we can sarnple a billion flavors of ethics before we have to mix and match.

United States, Isolated Individuals

The datasphere creates an impression of the U.S.A. as one homogeneous society. Sharing Da//as, experiencing a Steel Wheels concert, or catching tunes at the disco does not consensus make. Like our bridges, consensus is rotting away. But we can rebuild a bridge; we can't rebuild consensus in the datasphere. I choose not to recite the well-worn figures about the decline in the number of people who vote, the rate of growth of single-parent households, or the increase in illiteracy among high-school graduates as evidence of the erosion of the U.S.A. Check out a high-school's middle-of-the road math or English class. You can almost hear the rivets creaking and pavernent cracking.

American culture, according to Alexis de Toqueville, has at its roots an individualism with a twist. Toward the end of Book II of Democracy *in America,* de Toqueville contends:

> I see an innumerable multitude of men, alike and equal, constantly circling around in pursuit of the petty and banal pleasures with which they glut their souls. Each one of thern withdrawn into himself, is almost unaware of the fate of the rest. Mankind, for him, consists in his children and personal friends. As for the rest of his fellow citizens, they are near enough, but he does not notice them. He touches them but feels nothing. He exists in and for himself, and though he may still have a family, one can at least say that he has not got a fatherland. [9]

When we toss in STIM we shift into hyperreality and put the pedal to the metal to escape.

Two Classes, Many Segments

In Data, U.S.A., most of the readers of this essay can say, "I've *carved out* a pretty *normal* life *for myself."* As a result, you and I are not that different from Malcolm Forbes or Donald Trump. The clubby little America Don, Malcolm, you, and I know is truly a land of opportunity, manageable, and fun. We don't usually bump into those tens of millions of quasi-literates in the dark and hidden corners of the U.S.A.'s Top Forty SMSAs. We don't ride the bus, so we don't get much chance to strike up an idle

conversation while taking 30-hour cruise across the Rust Belt or scrounging for a free bed before the snow falls.

The U.S.A. has a population of about 300 million people who fall into two broad groups: The YuppiElite and the Underclass. With all the talk about niches and segmentation, you may be surprised at this two-class structure. The segments and the niches exist within, not across, these two classes. The distinction I make is a bit like nuts and dried dates in two separate fruit cakes. Both fruit cakes share some features, but within each piece of fruit cakes we've got different nuts and berries. In the two classes of the datasphere individuals and their manifold realities are the nuts and berries. Yes, sir, what we have is a nightmare of heterogeneity lurking within apparent similarity.

One characteristic of the datasphere is that it gives the YuppiElite the tools necessary to fabricate an event to create a transitory unity. A rock concert or media event is important because it brings the separate pieces together for a moment in time. We can't forget STIM, however. The YuppiElite have the knack of getting the M-part-the money, stock options, company cars, condos, two-day get-aways on St. Croix, the Gucci goodies, Mont Blanc pens, and golf lessons.

Members of the two classes are usually trapped in the virtual realities of that class. Because it is the U.S.A., movement between classes, while difficult, is possible. The Underclass can get money too. Recently it seems drugs and theft have been popular. Oh, the underclass can get paid if they can sing, run fast, invent, solder, do laundry, etc.

Like me, the reader of this essay is a member of the YuppiElite. I can, therefore, make some assumptions about your intelligence and reading skill, since it is unlikely that these words will not be sprayed on a subway or rapped. You are computer-literate. This essay is really "about" computers. Furthermore, you have specific aspirations for a career, income, and life style. In short, I've got you pegged no matter how you try to squirm free of the YuppiElite label. You're trapped because the information codes which we have extracted from the datasphere for chunks of our mutual virtual reality allows us access to jobs, information, and influential people. Our lives are tidy and compartmentalized. (Possibly these words are euphemisms for "nasty, brutish, and short" or "of quiet desperation?") And when we encounter one another in personal or professional dealings, we know what to expect in the way of behavior from one another. We can even "trust" one another to a certain extent.

We YuppiElite try to cement that trust with contracts or some other type of binding technique. Even when we squabble, we do so within some well-defined boundaries. To my knowledge, no one has killed a timesharing vendor at an ASIS meeting. From what I understand, the Underclass handle ethics in this same way. Remember, I didn't say ethics were gone. They vary by virtual reality. Before a YuppiElite cuts a deal with teen gang leader in Los Angeles, a little homework into the homeboy's ethical structure might be useful and prevent the YuppiElite from becoming a crime statistic. Making assumptions about ethics between classes and within segments is stone stupid.

Rapport

I can make a strong case that ethical behavior is the norm among people who are in a *shared* social and intellectual class. The more virtual realities we have in common, the better our chances at achieving rapport. What I mean by *rapport* is what rnost people mean when they use the word ethics.

In the datasphere, if we have no rapport, we have no ethical structure to depend upon. A homogeneous, change-resistant society has less trouble with ethical issues. The fixedness of the group brings clarity to good and bad, moral duty, obligation, values, and rules of conduct. Whenever we can create a little corner of homogeneity, we've got a big chunk of the datasphere under our control. Say what you will about the Christian in Salem, Massachusetts. When residents didn't get on the right ethical bandwagon, burning a neighbor was a great way to kill an evening and take the chill out of the air.

Makin' Bacon

And what datasphere novelties the YuppiElite and the Underclass have demanded. Telephone sex, BBSs, computer-controlled 150 mph autos, CD-ROMs, and the panoply of games are artifacts tailored to the shoot-'em-up mentality of the U.S.A. peculiar suited to the U.S. consumer society. Drug dealers in New York fax their orders to Columbia and use cordless telephones to get the grade-school runners to deliver the product on time, man.

Little wonder school and work can't shut out these siren songs. Our manufacturers can't manufacture. Our schools manufacture people who are graduate as certificated illiterates.

Today, the Union Jack, *fleur de lis,* and the rising sun have sizable interests in a wide range of core datasphere businesses. What this adds up to is that business people from other countries use America as mother lode with chunks of gold lying on the ground begging to be collected. We being exploited the way sharpies took the rubber from Southeast Asia and coffee beans from Brazil in the 1930s. The difference is that the resources taken from America are information-based.

To get the maximum bang out their investment, business people like volume. To sell the most, one must meet the needs of the buyer. As we U.S.-ers enter the 1990s, we pursue "the petty and banal pleasures" with which we can "glut our souls." Consequently, the datasphere is going to stimulate the YuppiElite to decide what's ethical andsells.

In the datasphere, companies can structure a virtual reality subsystem so complete a customer won't:

. Be able to determine what's real and what's not.

. Want to figure out the difference anyway.

The first signs of this subsystern reality engine is the emergence of docu-dramas and simulated-news scenes. The pictures of Neptune look faked, but they're real. What about the ABC footage of the suspected spy Felix Bloch passing a briefcase to a Soviet agent? Real or fake. ABC says "simulated"; I say "virtual reality"; most U.S.-ers don't know and don't care. Hey, it's *only* news. Where's the truth in the TV show about Col. Oliver North, who's still alive, being played by an actor who recreates the "reality" of Contragate? What's historically "real" about Jerry Lee Lewis the man and Jerry Lee Lewis the man as created by the producers, directors, writers, and talent in *Great Balls of Fire?* Do we know? Do we care? Does it matter in the datasphere? Are we rewriting, portraying, or creating "history"? Would Stalin get a job as a TV news producer? He would have to work on his appearance and predeliction for killing colleagues, but he might be able snag some points.

Managing Virtual Reality

What would you say if I told you that timesharing companies have the capability to exclude certain records from commercial databases? Now, what's your reaction to my saying, "Two major tirnesharing companies are blocking records each time the commercial database producer's tape is loaded on the vendor system"? Disbelief? Disinterest? Concern7 A yawn? A tight smile?

Why would a timesharing company (or any marketer in the datasphere for that matter) manipulate "reality?" I have identified these reasons, and this list is certainly not exhaustive:

. The data on the system are duplicative. The timesharing company wants to save money on storage. One solution is to knock out dupes.

. Different database producers have different contracts. To optimize revenue, the timesharing company knocks out records in higher-priced files and drives business to cheaper files. The customer pays less and uses more.

. The timesharing company gets a more favorable payback from File A than File B. To increase cash flow, records are excluded frorn the file which generates less cash.

. The timesharing company has its own database. Records are knocked offline when they are competing with the vendor's own databases.

What about the ethics of these actions? If we are on the timesharing company's team, we probably share a virtual reality that says, It's *just business.* No *hard feelings.* If we are on another's team in a different virtual reality, we may not be satisfied with a flip remark and an MBA smile.

Timesharing companies and any other organization that can maximize revenue flow within the datasphere will be increasingly predisposed to manipulate the "reality" their information products create. Pretty disturbing thought, but it is one that U.S.-ers have to think as the datasphere continues to grow. I've compiled a brief list of the less-obvious motives behind companies in the datasphere manufacturing "designer" realities.

. As tirnesharing companies become database producers, they will study usage patterns. To meet the needs of their customers and maximize their revenue, they will develop their own versions of databases which are potentially big winners. With their own versions, they gain power over the sap who created the database in the first place and the customer who can be driven like cattle to the barn.

. Creating versions of databases which are known winners gives the timesharing companies greater

control over a database producer with a similar or complementary database. Let a database producer remove a file from the system. The timesharing company says *'We've got a back up, already.'*

. Timesharing companies can use front-end software to exclude or include databases without the customer's knowing the filter is operating.

Massaging Reality

Now, move a step into the 1990s. A timesharing company or any other reality broker can create a fictional or quasi-fictional virtual reality. Manipulation of the data is nothing more than artistic license. As long as the customer is happy and spends money, no problem. Remember: ethics are defined only within a virtual reality, not across virtual realities. If the reality maker doesn't want bad publicity, the data can be deleted or revised. If the competition looks too good, the data can be "massaged." For those of you who have never rnassaged data in a virtual reality, it can feel as good as the massage in the regular reality...and be much more profitable.

It's widely accepted that database integrity is assured because of the duplication of sources in research libraries. Can we afford duplication? Don't we need to spend the money on the new, the unique, what we need?

Many information companies and their customers squawk about duplication. If the dupes go away, it becomes difficult-if not impossible– for the customer to assess the accuracy of the virtual reality a particular company is creating. I was born in a small town in Illinois, and I'm not convinced that I trust big companies' decision-making skills. Whether I like it or not, I will not have the luxury nor will I really want to wrestle with "real" reality. I can make or buy the one that's right for me at a particular point in time. I forgot to mention that the datasphere is the functional equivalent of Disneyland.

What would happen if I found a conflict between the virtual reality in the database and the virtual reality on a videotape? What's right in the datasphere? That, of course, is the $64,000 question the U.S.A. is not equipped to answer.

I've commented on the timesharing business because it is neither better nor worse than many other datasphere industries. We may want to

begin looking critically at many of the ubiquitous aspects of life in this ODC we call home. The investigation won't be easy, and it may not even be possible. We must wrestle with virtual realities when we lack tools which can help us think about "realities" and their ethicalities. Terrorists and Revolutionaries *always* think they're right. Their victims *always* think the terrorists wrong. I'd like to suggest a new word to describe this type of ethical dilemma, *beirut.* Its meaning would be "the situation when opposing virtual realities have opposite ethical postures." We might say, "That meeting ran into a beirut when Bill wanted to introduce that neutron-bomb game to preschoolers and Rashid objected."

Strike-Force Actions

I'm absolutely convinced that the datasphere can only proliferate virtual realities. The question becomes *What positive steps can you and I* take to *be sure that virtual realities can be* cross *checked?* Virtual realities, not plastic bottles and dioxin, are the most dangerous post-industrial pollutants in the ODC.

The actions I urge include for:

- . Educators. Colleges and universities training information professionals must provide courses which require the student the graduate to assess and evaluate information sources within virtual realities.
- . Publishers. Electronic publishers increase their efforts to provide a spectrum of viewpoints within their inforrnation products. Breadth and depth of content eases cross checking. A variety of viewpoints is the best way to decode a virtual reality.
- . Distributors. Network and timesharing companies must make a strong commitment to providing systems which allow data verification. With rapidly declining storage costs, redundancy can be justified.
- . Consumers. Information consumers from either class must be increasingly vocal, militant, and skeptical toward information.
- . Associations. Information associations must provide fora for discussion of these topics and encourage those who develop new techniques for analysis of virtual realities.

. Legislators. Wake up.

I don't feel uncomfortable with the next decade, life in the datasphere, nor living in an ODC. As Michel Foucault observed, "Robinson Crusoe, on his desert island, doesn't have ethical problems." [10] Figuring out how to move between the personal virtual reality and the shared virtual reality will be one of the principal challenges of the next decade. [11]

Stephen E. Arnold
tiarrod's Creek, Kentucky
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Endnotes

[1] Umberto Eco, Travels *in Hyperreality,* trans. William Weaver (New York: Harcourt Brace Jovanovich, 1986), p. 235.

[2] *Webster's Seventh New Collegiate Dictionary* (Springfield, Massachusetts: G. & C. Merriam, 1969), p.285.

[3] Umberto Eco, Travels in Hyperreality, trans. William Weaver (New York: Harcourt Brace Jonanovich, 1983), p. 137.

[4] Mike Brown, "Thais Protext Effort to Sell Them U.S. Cigarettes," *The Courier-*Journal, 20 September 1989, Section B, pp. 1,4.

[5] Daniel Boorstein, *Hidden History: Exploring Our Secret fast (New* York: Random House, Vintage, 1989). I found "Chapter 8, Revolution without Dogma" and "Chapter 13, The Perils of Unwritten Law" particularly suggestive. Readers interested in a less critical approach to the U.S. would probably enjoy Professor Boorstein's analysis of technology, pp. 229-3 13.

[6] David Inman, "Nintendo Crescendo," *The Courier-Journal*, September 10, 1989, Section H, pp. 1,9.

[7] Anon. "Prospects,", *The* New York *Times* (National Edition), September 17, 1989, Section 3, p. 1.

[8] William James, *The Writings of* William *lames: A Comprehensive Edition,* ed. John J. McDermott (Chicago: The University of Chicago Press, 1977), p. 311. This passage is taken from "The Pragmatic Method." James is a rich resource for those who want to learn how life should be from those with money. Professor James is easy to mock, but I do not underestimate the significance of his ideas to the philosophical underpinnings of capitalism.

[9] I took a close look at Herbert Spencer's *The Principles of Ethics, 2* vols. (Indianapolis: Liberty Classics, 1978) and found some surprisingly relvant comments about the impact of change upon ethics. But when I reflected on the Americanness of this problem, I went back to de Toqueville, who hit the nail on the head decades before Spencer shook a rattle. This passage is from Alexis di Toqueville, *Democracy in America,* trans. George Lawrence (New York: Anchor Books, 1969), pp. 691-692. This is a must-read for any serious student of information because America is first an idea and, second, a datasphere.

[10] Michel Foucault, Foucault Live: Interviews, 1966-1984, ed. Sylvère Lotringer, trans. John Johnston (New York: Semeiotexte, 1989), p. 86. If I were still teaching, my students would swim in the French and Italian modernist philosophers.

Nothing comparable is produced in the U.S. This lack of critical thinking as exemplified by Foucault is one reason Americans can't see what car they're in, where they're going, or why they got on the train in the first place.

[1 1] I would be remiss if I didn't mention three books which stimulated my thinking and influenced the shape this argument has taken. The books are:

Peter F. Drucker, The New Realities: In Government and Politics, *In Economics* and *Business, In Society and World View, New* York: Harper & Row, 1989

Robert W. Lucky, Silicon *Dreams: Information,* Man, and Machine, New York: St. Martin's Press, 1989

Richard Saul Wurman, *Information Anxiety,* New York: Doubleday, 1989.