the notion that librarianship is an occupation situated at the intersections of several disciplines and practices, most importantly the conjuncture of education and communications. Therefore readers should find it no surprise that we are presenting in this issue materials relating to the field of popular/critical education inspired by the work of the radical Brazilian educational theorist/practitioner Paolo Freire. The "comic book" we reprint here, in translation, the work of visiting Freirians and Brazilian Worker's Party (PT) activists Eleonora and Joao Paulo Castaño Ferreira, is the model of material currently being developed by them for an experimental worker's education program in New York City which they are carrying out under the sponsorship of the International Ladies Garment Workers Union. This example of "critical literacy" material deals in an exemplary way with issues raised in the last Brazilian presidential campaign (a campaign which PT candidate "Lula" narrowly lost), issues which have relevance to workers everywhere. This is followed by a brief bibliography of items illuminating some of the theoretical premises and practical applications of this kind of cultural work.

Finally, in our Documents section, we are pleased to present a speech given by labor historian Grace Palladino to members of Local 2910, American Federation of State, County, and Municipal Employees, at the Library of Congress about the implications of LC's new closed stacks policy on historical research, and the text of an American Historical Association resolution on the same issue.

As a writer and teacher, I value information as much as the next person. Unless, that is, the next person is a computer hacker, a Cognitive Scientist, an Artificial Intelligence expert, or an advertising executive in charge of the IBM or Apple account. Then I begin to feel as if I've strayed into a strange cult where all about me I find people worshipping light bulbs. No question but that light bulbs are useful devices. I wouldn't want to live without them. But I never would have thought of them as objects of veneration.

So too with information. I grew up in a time when this non-descript word was rarely used for anything more exalted than requesting a telephone number ("Information, please"). But in the years since World War II, I have seen it progress to the status of a godword, enjoying the mystique once reserved for Reason, Faith, Grace. As such words often do, it has steadily broadened to cover more and more intellectual territory. These days it is no surprise to find information elevated to the Be-all and End-all of existence. In a recent book, two renowned cosmologists (John Barrow and Frank Tipler), pondering "Life and the Final State of the Universe," conclude that everything human beings do, not just their thinking, is purely and simply a form of information processing. It follows that every conceivable thought and action of any possible form of life is ultimately constrained by the physical laws governing the processing of information.

Accordingly, they predict a time when we may have to recruit fundamental matter itself [in the form of positronium atoms] to pack away all the information we have collected. Finally, when some superintelligent species has "stored an infinite amount of information, including all bits of knowledge which it is possible to know," we will have reached "the Omega Point," the evolutionary terminus of the cosmos. One wonders what the protocols will be for logging on to a database as vast as the mind of God.
Somewhere behind this apotheosis of information there lies a curious and ironic episode in the cultural history of our time. Through the late sixties and seventies, during the heroic age of the personal computer, many of the now semi-legendary hackers of that first high-tech generation were guided by a great ideal. They were confident that the new information technology they were fabricating, like so many cyberpunk renegades working out of attics and garages or in clandestine all-night sessions at the nation’s computer labs, would one day serve as the basis for a democratic renaissance. Computer networks and bulletin boards, they idealistically predicted, would one day bind the people of the world together in one nonstop electronic town meeting, a global village in which the citizenry would find all the data it needed for intelligent discourse and enlightened political participation.

That is not the way things seem to be turning out. Instead, we find ourselves in the paradoxical position of having at the same time both too much and too little information. Whether we own computers or not, we are all vividly aware these days that there is a great deal more information buzzing about us than these sources ever provided. The mass media we share are themselves more and more dependent on highly sophisticated forms of data processing and telecommunications that span the globe. Governments, corporations, campaigning politicians now routinely inundate us with a flood of facts and figures that can easily discourage criticism. "Data glut," as it has been called, can be confusing; it can also be subtly coercive, and perhaps in no respect more so than by convincing us that information is the indispensable ingredient in political affairs. Not wisdom, character, common sense — but data, usually meaning lots of inscrutable numbers.

There are high tech enthusiasts who assure us that, if the computer has helped create the problem of information overload, it is the very tool to provide the solution. All we need is a little high tech hair of the dog. After all, a database exists to organize data, does it not? True, but there is not just one database; there are hundreds, each using different protocols, renting on different terms, operating with varying degrees of reliability. These days, keeping the organized facts "organized" is now a project in its own right. We need databases to help us keep track of the databases.

And then there is all the free-wheeling data that builds up in every large computer system by way of electronic mail, duplicated files, outdated messages, office chit-chat, in-house persiflage, and the inevitable, endless on-scrolling anthology of light bulb jokes. Open a conference on your computer, and you may never be able to turn off the flow. File a simple query on the network, and you may get a hundred answers, not counting wise-cracks. One can set up a neat little business these days flushing the sludge out of overloaded computer systems, a sort of electronic roto-router service. Anterior Technology in Menlo Park, California has done just that. Its service, the "In Moderation Network," will monitor your clogged and overflowing databank, purging the "information sewage" of inane, repetitious, and irrelevant material for a yearly fee of $720. This janitorial function is, incidentally, performed by natural intelligence: namely, people.

Thanks to the computer, we now have exotic new species of information undreamt of in anybody’s philosophy a generation ago. Because of their speed and prodigious memory, computers can build exquisitely baroque statistical cathedrals by compiling and articulating existing information into ornate new configurations.

Consider, for example, the sort of matching programs that can network data from government agencies, credit bureaus, educational, legal and medical files, zip codes, subscription lists, law enforcement records,... The resulting compilation — a demographic mountain built out of molehills of once inaccessibly scattered data — represents a category of information that could never have been assembled a generation ago. Perhaps we need a new word: "hyperfacts," which might be graded into classes depending upon the number of matches that went into making them. Thus, the answer to the question "What are the names and addresses of all recently divorced, college-educated males between the ages of 24 and 45 living in the Beverly Hills zip code area of Los Angeles County, earning above $100,000 a year at firms that have downsized in the past twenty-four months, driving BMWs and seriously close to the end of their Gold Card credit line, who have undergone major surgery in the past twelve months?" would be a Class Twelve Hyperfact.
This might seem to be information we never knew we needed; indeed information that answers questions we could never have imagined asking. But provide the data and a use will surely be found — say, to write one of those customized form letters we receive these days with our name at the top and a pitch that begins, “having trouble meeting your alimony payments after all those expensive days in the hospital, Mr. Thorndike?”

At this level of usage, the global matching program is a mere annoyance. But consider substituting a few different terms in the example above: for the salary, a political affiliation; for the BMW, a list of petitions signed over the years; for marital status, a radical publication. Then place the program in the hands of the FBI, which of course is already well-equipped with such powers. At once the technology takes on another, more ominous character.

True, the right hardware equipped with the right software can perform data-processing miracles. But when the computer does solve the problem of data-glut, say by way of a well-managed on-line information service, for whom — primarily and most efficiently — does it do so? An instructive example might be drawn from the world of finance, one of the most data-intensive areas of daily life. Think for a moment how computers have come to function in the international money market. Programmed investing — or “high leverage financial decision-making” as the age-old practice of arbitrage is referred to these days — did not exist until there was a machine that could process enormous quantities of data at the speed of light. Those who can afford such “silicon agents,” as they are known in Artificial Intelligence circles, are in the position to manipulate entire economies to their own advantage in obedience to programs which are their property, using databases that they can far more easily afford to create or rent than the individual investor. As a result, financial power has become more tightly concentrated and more esoterically wielded than ever before.

Or imagine a would-be presidential candidate who had a large enough bankroll to afford exactly the data-processing technology he needed to define his demographic terrain with pinpoint accuracy. Imagine the candidate owned a satellite communications system and a nationwide telephone bank equipped to record, store, and manipulate the phone number of every party that calls. Would he not enjoy a formidable advantage based largely on his ability to mine information? Perhaps enough to be able to outflank primary elections and party nominations...

For the first time in history, information is well on its way to becoming a proprietary benefit available only by license from those who own it and for whatever fee they care to place upon it. In times past, a book which contained information might be a commodity with a price upon it; but a book is cheap. If it finds its way into a public library, it is free. And whatever it contains — say, the definitions in a dictionary, the thought in an encyclopedia, the statistics in an almanac — is in the public domain. Nobody collects a fee each time you look up a word in Webster’s or consult the Britannica.

These days more and more information is being locked away in commodities called databases located inside commodities called computers which can be accessed only with the permission of those who own the programs and only by those who have the machinery to do the accessing. And more and more large databases are being concentrated in fewer hands. Indeed, there is reason to believe that buying up big, lucrative databases is a high priority among those corporative elements that are out to oligopolize as many publishing and media assets as they can.

When we speak of information as a commodity, we must bear in mind that there is the owning side of the question as well as the selling side. Both introduce a political and financial dimension into our discussion of the technology. What some sell to make money, others now own and use in ways that present a serious challenge to what precious little is left of the world’s democratic institutions.

There is, in short, a politics of information. And in that politics so far there has been no significant voice raised in behalf of the public interest. Instead, we have an ongoing heated effort to sell hardware and software to the most lucrative markets: corporations, governments, the universities — and beyond that perhaps to as many well-heeled individuals as can afford to own the equipment, rent time on a
database or a bulletin board, or hire the services of a private information-broker. At a modest estimate, this leaves some ninety percent of the population out of the benefits of the new technology.

It is a striking fact that in the discussion of information, the library is so rarely mentioned. America's city, county, and state libraries represent the best-developed reference and reading service available to the general public. There may be an understandable reluctance on the part of the computer industry to call attention to that fact. The data merchants, after all, are out to sell their wares, both hard and soft. Let the consuming millions know that information is freely available through a public utility, and the millions will not buy. Library sales count for little compared to the prospect of putting a privately owned microcomputer into every home or on every office desk. If computers— or at least access to them through a specialist's skills—were readily available free of charge in the library, that might dissuade some potential customers from buying.

There may be another reason why the public library is so minor a player in the new information ethos. Thanks to its marketing imagery, the computer has been costumed as an affluent, middle-class appliance — like the Cuisinart and the compact disk player. Its use in the library associates it with ideas of public budgeting and thrifty purchasing, a sensible investment meant to serve a distinctly low consumption populace that is addicted to the unspeakable bad habit of borrowing books — collectively owned books! — rather than buying them. This institution doesn't even pay the authors of its books royalties! Since its inception, the library has been an offense to private property. In its democratic outreach, the library contacts a clientele that may even include the genuinely poor, whom the data merchants do not regard as any sort of market at all. When was the last time you saw "information" associated with needs of the distressed and victimized? This is not the imagery or the reality with which the computer industry feels comfortable. From its viewpoint, information is upscale merchandise priced to the budget of top-dollar professionals and executive decision-makers. The electronic marketplace is well-stocked with what that public requires: market reports, tips on resorts and restaurants, dating services, satellite shopping. I suspect we will wait a long while before we have databanks called Welfarex, Pauperserve, Joblessnet.

But there are libraries that might give the project a try. They have expanded their services to include referrals, pamphlets, contacts that cover a wide range of community social needs: legal assistance, tenants' rights, unemployment benefits, job training, immigration, health, welfare, and consumers' problems. The object is to put members of the public in touch with groups and agencies that can help with daily matters of livelihood and survival. This is not the kind of information one finds in commercial databases; and while the service may overlap the function of some electronic bulletin boards, the library can make it available to those who cannot afford a computer or easily master its intricacies.

If computerized information services have any natural place in a society, it is in the public library. There, the power and the efficiency of the technology for the non-hacker majority can be maximized, along with its democratic access. In the libraries of the nation, we have an existing intellectual network spread across the society, stationed in almost every neighborhood and in the charge of experienced people who have always honored a strong ethic of public service. If the equipment for computerized reference facilities were concentrated in local libraries or, better still for reasons of economy, if every local library were linked to a generously funded regional reference center, this would be the fastest and cheapest way for the general public to gain open access to whatever benefits the Information Age may have to offer. We do well to remember that making the democratic most of the Information Age is a matter not only of technology but also of the social organization of that technology.

Finally, let me turn to one area of our life in which I believe the library now has a special and particularly demanding role to play as a citizen's reference service. In preparing my recent book The Voice of the Earth, a study of the psychological link between the planet and her increasingly vexatious human species, I reached the conclusion that the environment that most
urgently needs our attention is that environment of the mind where all other issues must find their valid reflection. Granted that all public debate, including environmental politics, is bound to be a messy business in which value and emotion, fact and fabrication struggle for expression. But environmentalism is peculiarly data-intensive. More so than in any other arena of conflict, environmental questions are linked in everybody’s anxious thoughts with facts and figures. And never have dry statistics been so filled with consequence.

Do we know for sure that the ozone is vanishing — and why? Do we know for sure that the oceanic food chain is in danger of being depleted — and why? Can we be sure what damage acid rain will do over the next year, decade, century? How sure do we have to be about how many numbers before we reform our ways?

Providing reliable information on ecological issues begins with the honest admission that many of the most important issues are vastly imponderable, requiring speculative extrapolations that span the entire planet over eons of time. There is much we cannot be certain about, much we cannot pretend to know for generations to come. One must make this admission even though we know that there are opponents of the environmental movement who will take great advantage of that situation, as if uncertainty were a license for continuing business as usual. And of course that is exactly wrong. Uncertainty is the worst case, because it forces us to opt for prudence in the absence of a clear imperative.

Confronted as they have been over the past decade with recalcitrance, indecision, and irresponsible evasion in high places, many environmentalists have understandably felt driven to respond with moral hyperbole and apocalyptic exaggeration. The goal may be a healthy sense of caution and restraint, but the result is often a statistical smog that leaves the watching public rubbing its eyes with bewilderment. Whom can it believe? What is the truth of the matter?

To a significant degree the confusion arises from the organizational impaction of the environmental movement itself. In their efforts to arouse the public, environmentalists have understandably flooded the society with the statistics of impending disaster. But the movement hardly speaks with a single voice in behalf of a clear agenda. There are few organizations (like the Worldwatch Institute, Earth Island Institute, Friends of the Earth) that have sought to prioritize the many challenges and changes we face. The movement at large and at the grass roots remains disconnectedly and often competitively occupied at every level from the planetary biosphere as a whole down to the nearest bend in the local river. There are impassioned groups devoted to every embattled ecosystem, every imperilled culture, every endangered species of flora and fauna. Still others are focussed upon the myriad sources of toxicity and pollution. Environmentalism is quite simply the liveliest, largest, most internally diverse movement ever to occupy the political landscape. Even under the best and most candid of circumstances, the amount of data now accumulating on environmental problems that may be serious enough to threaten our survival would be overwhelming.

But circumstances are not the best, nor the most candid. In addition to official obfuscation, there is now the diabolically clever corporate ploy of “green-washing” — dressing up business as usual to look environmentally responsible, when it may be just the opposite. One repackages the controversial product, calls it the “environmental formula,” and surrounds it with advertisements featuring frisky animals and Edenic landscapes. To judge by the commercials one sees on television, the butterflies and the wildflowers never had better friends than Dow and Dupont.

Worse still, a new and rougher political tactic has emerged: environmental hardball. We have on our hands a well-organized and funded anti-environmental backlash that is seeking to cast environmentalists in the role of bullies and fanatics. Major corporations now sponsor citizens' groups like the Alliance for America and the Blue Ribbon Coalition that purport to speak for hikers, hunters, fishermen, and dirt-bike riders who merely want to enjoy the simple, God-given pleasures of nature. Lumber and mining corporations circulate a “Wise Use Agenda” that legitimizes their unrestricted pursuit of profit, meanwhile hastening to champion the little guys who are supposedly help-
less victims of elitist environmental organizations conspiring to
place the wilderness off limits to the human race.

In the United States, as the cold war fades from memory,
conservative elements are eagerly targeting environmentalism
as their replacement adversary, casting it in the nefarious role
once filled by the Marxist opposition. A green scare is replac­
ing the red menace. The Competitive Enterprise Institute, a
conservative study center that promotes "free market eco-man­
agement," announces, "There is an intellectual war taking
place between pro-market and anti-market forces, to which
business should be contributing a vigorous defense of its social
role." The Institute rankles at the constant "poormouthing" of
"grieving greenies." "Ideological" environmentalists, it charges,
are "anti-human"; their underlying premise is that "every con­
sumer product and every consumer action is inherently anti­
environmental."

In brief, the environment of mind is not only overpopulat­
ed with information but increasingly polluted with misinfor­
mation and disinformation. I realize that, as the politics of the
environmental movement enters this latest, contentiously ideo­
logical phase, it cannot be the job of libraries to take sides on
each heated debate. But that is not what is needed. The lines
of controversy have been drawn and are already well-defend­
ed. What we do need is somewhere — preferably outside the
environmental movement itself — the public can look to find a
balanced selection of timely materials and access to all the
data available so that it can pick its way through the propaga­
da and partisan pleading. We need, not still another group of
impassioned environmental advocates, but the help of people,
who, though honestly concerned about the issues, can yet be
trusted by the public as an independent source of reliable,
many-sided information. We need those who can be seen as
standing apart from the adversarial exaggerations and scare
tactics of environmentalists as well as from corporate and offi­
cial duplicity, and who are in touch with the best research, the
latest findings, the many views represented in each debate. I
cannot think of any institution better placed to perform that
function than the public libraries of the nation.

And they might do more. They might help publicize the
first international set of biospheric priorities the environmen­
tal movement has been able to produce. As disappointing and
as compromised as the recent Earth Summit in Rio may have
been, this landmark event left behind it a consensus on the
most urgent ecological dilemmas of our time. It marked out
four interrelated issues: economic relations between the rich
and poor nations, global warming, the fate of the rainforests,
biodiversity. Of course there was a fifth issue that absolutely
everybody knows should have been on the agenda. Population.
Population was so glaringly [and shamefully] ignored that it
was left all but screaming in the streets of Rio. But its neglect
at the Summit may actually have made the issue more promi­
inent than if it had been given perfunctory attention. The fact
that the Summit censored itself on so pressing a question
served to underscore the single greatest lesson the conference
had to teach the world, namely that every environmental issue
is a hot political issue, more so than it is a technical or scientif­
ic issue.

Would it be possible for the libraries of the United States to
adopt this epoch-making consensus as a project in public educa­
tion, devoting a month to each of the issues in turn? The goal
would be to draw the public's attention to the historic signifi­
cance of the Earth Summit — and with respect to each of the
issues make clear what libraries have to offer as independent
reference and resource centers. And of course the project would
address the question of why population was not on the
Summit's agenda.

Though my appeal here is for the library to act as an inde­
pendent, non-adversarial information resource, I have every
confidence that the truth of the environmental cause will speak
for itself when the facts and figures are fairly marshalled, when
the most respected authorities are assembled, when the debate
is rationally conducted. Moreover, once again as the keepers of
our literary heritage, libraries could gracefully include in this
project so much that is often squeezed out of rancorous political
debate: the classic works of poetry and literature that celebrate
the majesty of nature, studies of primary people in their habi­
tats, the memoirs of great naturalists and nature lovers, the art
and film that capture the splendors of the Earth. Materials like
these shape the sensibilities that give life to facts.

We need sound information and a great deal of it in our struggle to save the living planet. But that is not all we need. We need to draw on works of thought and wonder that provide the emotional context for wise decisions and compassionate policy. Who better to remind us of that than those who work each day at the sources of culture?

I had considered beginning this paper with some tempting bait: a sketch of the glorious role of librarians and libraries in our high tech future. I was then going to raise questions about the direction that future is taking. But I have come to believe that we are moving far too rapidly away from our historic professional and institutional values of print literacy, social memory, and equal access to resources for an informed citizenry, so I want to state my position up front as clearly as possible.

Henry Giroux, a critical theorist of education, argued in the early 1980’s that there has been a fundamental shift in the guiding ideas behind our policies toward public institutions. He speaks about public schools, but I think his comments apply to libraries as well:

Schools [and libraries] are no longer being celebrated for their role as democratizing institutions. [T]he traditional arms-length relationship between [public institutions] and business is now being dismantled for the purpose of aligning [them] more closely with short- and long-term business and corporate interests. [They] are becoming citadel[s] of corporate ideology... (Giroux 1988, 178).

What we are losing in this process, and what I think we must create and recreate, is the role of libraries as what Giroux calls “critical” or “democratic public spheres.” Again, adapting his analysis of schooling, I would describe public institutions like schools and libraries

...as democratic sites dedicated to forms of self and social empowerment. [They] are public spaces where [people] learn the knowledge and skills necessary to live in an authentic democracy. Instead of defining [them] as extensions of the workplace or as frontline institutions in the battle of international markets and foreign competition, [public institutions] as democratic