references to the cult of Demming and the Westminster Dog Show into the same paragraph! Less humorous is the self-promotion in which Blaise engages. He positions himself as a "real" (as in not trained in the LIS field) scholar who is unafraid to ask the hard questions and be the kind of innovative administrator a library school needs. Blaise wants us to be grateful that he is loaning his prestigious credentials to our shaky field, calling all who question his knowledge of librarianship "xenophobic." All who do not heed his call consign themselves to the "lumpenproletariat . . . lacking the resources, imagination and will to reposition themselves for the twenty-first century."

Blaise is, of course, not the first to notice that librarianship is in turmoil and on the brink of an uncertain future, but he practices the sloppy scholarship he attacks in caricaturing the positions and problems he identifies. Is all scholarship in the LIS field excellent? No. Are all forms of feminist scholarship of uniform high quality? No. Are all social issues central to librarianship? No. Nobody has actually taken these positions, but then Blaise isn't actually interested in engaging the ideas and scholarship which deal with those issues. Perhaps he has done us a service here by provoking a response.

We (librarians and library school professors) do need to have a discussion about first principles. So far, ALA has given mostly lip-service to its progressive policies. Those who have tried to put them into action have faced what I can only call a backlash within the organization. Debating how librarians should be educated -- and for what purpose -- is about as fundamental as it gets. What is needed is a little less pretense about the "objectivity" and "neutrality" of these kinds of arguments against progressive policies and actions in the profession.

by John Buschman

SERVICE UNDERMINED BY TECHNOLOGY: AN EXAMINATION OF GENDER RELATIONS, ECONOMICS AND IDEOLOGY

by Roma Harris

Libraries are fascinating places to study at the present time. These institutions face the combined impact of increased public demand for information services, financial pressures arising from the downsizing of the public sector, and rapid changes in workplace organization that inevitably accompany the introduction of a vast array of new technologies and information products. In libraries, one sees played out the conflicts inherent in a society in which the economy is based more and more on information-for-profit and yet, in which there is a growing recognition that access to knowledge is a public good, one might even call it a public trust.

Librarianship as Women's Work

Historically, North American librarianship has been very much a female-intensive enterprise. However, while women have been numerically dominant as laborers, their work has been controlled, to a large extent, by male administrators both within and outside the library systems in which they are employed. This male control continues, although its form has shifted somewhat in recent years. For instance, due largely to the corporate impetus to commodify information, the female-identified role of care that public sector libraries have played as social institutions in their communities is being undermined through attempts by systems-oriented librarians, senior library administrators, local politicians and vendors (usually male) to redefine these organizations as "information centers" in which
access to information is increasingly restricted and sold to those (usually male) who can pay.

This transformation of public sector libraries reveals a shift in emphasis not only in the types of services that are offered, but in the very nature of the communities to be served by these institutions. For example, while at one time the primary emphasis in public libraries was on services for women and children and for student and faculty scholars in university libraries, in both settings one now sees an increasing preoccupation with providing service to business customers. Thus, the public sector library (indeed, the entire occupation of librarianship) is rapidly developing a culture in which what is most valued are technical functions in support of wealth creation rather than caring functions in support of the individual growth of all members of the community.

Why is this happening? The transformation of librarianship cannot be understood without looking at the much broader forces acting on society as a whole. Therefore, the remainder of this paper is devoted to a discussion of technology within the context of economic imperatives supported by the political rhetoric of prosperity and individualism.

A Preoccupation with Technology

Private and public sector organizations are devoting increasing amounts of their resources to new technologies. A recent report released by Statistics Canada suggests that, in 1994, Canadian companies had increased their level of investment in "soft assets," by this they mean computers, telephones and plant equipment, to 33 per cent of all their fixed assets (Globe and Mail, 1994). Even in the public sector investment in machinery and equipment has climbed to 12 per cent of all fixed assets, such as roads, bridges, buildings, etc. Accompanying this rapid increase in the use of new technologies is a profound change in the organization of the workplace and in the nature of employment.

This preoccupation with technology is driven by the widely held assumption that future economic prosperity is dependent on the rapid development of national electronic infrastructures. This is reflected in the United States, for example, in the heavy promotion of the National Information Infrastructure. The economic imperative served by technology is evident in Canada as well. To give just one example, the Advisory Committee on a Telecommunications Strategy for Ontario (1992) developed a blueprint for economic renewal in Canada's largest province that hinges on the notion of the information highway. The Committee promotes its vision by playing on a sense of urgency about the future. As is true of other such initiatives, committee members claim that economic prosperity is dependent on technological change.

Just as the highway system was the infrastructure for the industrial economy, so our telecommunications networks will be the highways for the new economy. Without a state-of-the-art, electronic infrastructure, our businesses, organizations and society cannot succeed (p. 4). We can only achieve this vision of economic renewal and sustained social development by exploiting the capabilities of the new information technologies to reshape what we do and how we do it. In the new knowledge-based economy, individuals will create wealth by applying information, human intelligence, effort, and technology to manufacturing, agriculture and services. This new economy will be part of the larger information society -- the social and economic organization of the information age. In the information society, the purpose of wealth creation will not simply be profit for a few, but a more equitable and more prosperous society for all (Advisory Committee on a Telecommunications Strategy for the Province of Ontario, 1992, p. 10).
This perspective is not entirely new. It has, as we learn from historians, formed the underpinning of the vision of development in Western societies for many years. What is new about this version of an old theme, however, is captured nicely by Howard Segal, an historian of technology who notes that:

high tech has spawned a new generation of technological utopians whose principal allegiance is not to the public sector, unlike earlier such visionaries, but to the private; whose favored institution is not big government but the big corporation; and whose principal motivation is not serious social change but personal gain -- or prophecy for profit's sake (Segal, 1994, p. 165).

This is evident in the composition of the Ontario Advisory Committee on Telecommunications which includes in its membership representatives from the Canadian Information Processing Society, the Canadian Advanced Technology Association and the Information Technology Association of Canada. The profit-making orientation of such groups and their influence on government policy both in Canada and the United States is not surprising when one considers that since the 1960s the sale of information, information technology, and related products has been growing into a booming business and is, in the eyes of many, the foundation of the new economy.

Segal has much to say about the prophecies of high tech gurus, of whom Alvin Toffler, advisor to Newt Gingrich, is a good example. In Canada, we have our own Tofflers who are not at all shy in making extravagant claims about the future. One such example is George Fierheller, Chair of the Information Technology Association of Canada and senior executive with the large Canadian company, Rogers Communication. In describing the global information network Fierheller claimed, in a recent speech, that

What we are creating is a fabric of intelligence: a supercomputing network that will weave the next human renaissance... The new revolution amplifies brain-power... the information revolution associates each of our minds within a unified global brain -- an electronic commonwealth of human thought... This revolution vastly increases the mental potential of each unique human (Fierheller 1994, p. 32).

Encapsulated in Fierheller's remarks are some of the main features of contemporary technological discourse.

Technological Utopianism

In the vast literature about computing and its anticipated social impact there are, essentially, two primary themes; one that reflects a utopian view and another that is anti-utopian. Fierheller's unified global brain obviously falls into the utopian category. "Technological utopianism portrays specific technologies... as being the key enabling elements of an ideal world... It refers to a kind of narrative that makes technology, even simple ones, the key elements to a lifestyle that is admired as being fundamentally good and eminently desirable" (Kling and Dunlop, 1993, p. 6). In contrast is "technological anti-utopianism [which] is almost a mirror image of technological utopianism. In a technologically anti-utopian narrative, technologies are a 'key cause of human suffering'" (Kling and Dunlop, p. 7).

Typical of the anti-utopian perspective is the work of Vincent Mosco (1989), who refers to the "information society" as the "pay-per society." According to Mosco, the essence of computer communications systems is to "measure and monitor information transactions for control and profit" in the form of the "pay-per telephone call, pay-per view video, and pay-per bit, minute, screenful or page in the information business" (p. 114). The pay-per society involves
what Mosco describes as "a fundamental process in contemporary capitalism" which is "the commodification of time and space" (p. 114). Mosco argues that today's "new technologies are specifically built, not to increase the productivity of workers, but to eliminate them" (p. 116) and he warns that "if unemployment and deskillling continue to lower the cost of labour they will also diminish the potential for mass consumption that the system relies on for expansion" (p. 124).

Mosco is not the only anti-utopianism writer on the scene. Other analysts, too, warn about the dangers of the new technologies, particularly the ways in which consumers can now be "captured" through their television sets and personal computers.

These electronic/information consoles are capable of penetrating the deepest recesses of the home, the most private and inaccessible sphere to date, offering entertainment, purchases, news, education, and much more round the clock -- priced, metered, and monitored by corporate suppliers. In these ways, 'free' time becomes increasingly subordinated to the 'labor' of consumption (Robins and Webster, 1988).

The antiutopians expect the electronic invasion or "colonization" of home life to have a powerful effect on public space, public life, and public institutions and describe a rapidly approaching future in which the focus of people's lives will become their own private, secure home space in which it is possible not only to be entertained, but to work, be educated and shop. In other words, the private home will replace the city as the centre of commerce and culture. This is already evident in the United States where citizens who can afford to buy their own homes are intensely preoccupied with protecting them and maintaining their isolation from other citizens who are less economically advantaged.

Accounting for Economic Disadvantage

There is a new level of mean-spiritedness evident in the class war that is now being waged between rich and poor. In an attempt to explain this, economists Harrison and Bluestone suggest that the allure of the Democratic Party agenda that included anti-poverty programs, subsidized housing for those with low incomes, public transit for those without autos, welfare for those without jobs, and affirmative action for those of the "wrong" color or sex did not pale because Americans became more selfish and greedy or more racist and chauvinist. Its appeal diminished when the agenda had to be financed by the redistribution of wealth rather than by growth (p. 170).

In the absence of economic growth one finds a redirecting of resources away from the most disadvantaged members of society. One small example of this is the way in which public sector libraries are being retooled to support the interests of business people over those of other members of the community. In other papers, I have described this phenomenon with the phrase "abandoning care" (see, for example, Harris 1994). However, this term is probably incorrect. Rather, the problem of which this shift in the library's mandate is symptomatic is that North American society is in the process of abandoning "share" as the fundamental ethic behind the provision of public services.

In 1988, Harrison and Bluestone argued that, in the United States, it will be necessary to rebuild and restructure many of the social welfare programs that were gutted by the Reagan administration in the course of eight years. Industrial policies, democracy in the workplace, new union organizing drives, and the rebuilding
of our infrastructure all will benefit those who gain the major part of their incomes from the labor market. But they will do little directly for those who, for one or another reason, cannot work or are restricted in the amount they can do. For these families, it is necessary to improve public assistance, provide more public housing, increase access to daycare for children and the elderly who can remain at home with their families, and expand family and work skills. Anything less will condemn at least the bottom fifth of the population to an ever-smaller proportion of total national income (p. 189).

Sadly, in 1995, these recommendations have not been followed and it appears that the downward spiral in social support and public infrastructure continues and is being mimicked in Canada. The lack of public outcry against this failure to share resources is supported by what Michael Parenti calls American "political mythology" of which one strain is New Age ideology.

According to Parenti, "in place of political impotence, New Age enthusiasts teach a kind of personalized omnipotence, reducing social problems to a matter of interior mind-set" (1994, p. 15).

In the diverse array of enthusiasms that come under the New Age rubric, two general orientations might be discerned. There are the "inspirationists," who focus exclusively on benefits in the here and now, and the 'spiritualists,' who tell us that the material world is but a passing shadow compared to the mystic realm beyond, where transcendent bliss awaits us (p. 16).

Such mythologies emerge as a way for people to cope with the social and status changes wrought by a turbulent economy. According to Dudley (1994), "America's 'success ethic' has always portrayed economic advancement as a matter of individual effort, hard work, and perseverance" (p. xix). Thus, economic hardship can be viewed as a just outcome for those whose individual habits or choices are lacking in some way, i.e., are "wrong" or "immoral."

Meritocracy replaces the idea of divine reward for hard work with the idea that an individual's ability to master and overcome the forces of the marketplace should determine who wins and who loses in life. In this updated version of the Protestant ethic, it is not God but the economy that rewards people of good character while punishing the shiftless and improvident (p. 74).

Dudley describes the bitter experience of workers in the auto producing town of Kenosha, Wisconsin when the big AMC factory closed. When a plant closes,

not only must workers cope with the economic hardship incurred by unemployment, they must also leave behind a distinctive way of demonstrating individual capacities and skills. When a plant closes, workers lose a social structure in which they have felt valued and validated by their fellows. When they are stripped of their workplace identities, dislocated workers face an external culture that no longer seems to value, or grant social legitimacy to the kind of work they do (p. 134).

This seems to me to be very much analogous to the impact on workplace culture that is taking place in the transformed library. As technological skills come more and more to predominate in information work, "old-style librarianship" and those who practice it are no longer valued. While there are many women in the field who embrace the new technology and participate just as much as their male colleagues in shaping the "virtual library," traditional librarianship is seen, nevertheless, to be the domain of women. On the contrary, the new librarianship, also known as information management or "infopreneurship," falls much more within the purview of men who have claimed technology's mantle of status because of their
widely touted fixation with "gizmos" (see, for example, Cockburn and Ormrod, 1993). Just as the auto workers of Kenosha are denigrated by their middle class neighbors for failing to anticipate the changing economic times and clinging to an old way of life, librarians who are slow to embrace the new technology and the changing mandate of public sector library work are castigated by info-gurus in the field and blamed for being lazy, out of touch, incompetent and unprofessional.

This hostility is not limited to librarians and auto workers. Today, the basic premise driving the success ethic - an expanding economy - has ground to a standstill. The stable world system that gave postwar America a steadily growing middle class has, since the 1970s, turned volatile and unpredictable. People are unsure where they stand in today's economy, and many fear that their present positions are far from secure. The American dream, for a substantial percentage of the population, has become an illusion" (Dudley 1994, p. xxi).

Under these conditions, the potential for social unrest is enormous. Therefore, it is no coincidence that conservative politicians pressing an economic agenda that is of benefit to only a relatively small elite disguise the dismantling of the public sector infrastructure in the language of opportunity and distract those who might benefit most by banding together in organized collectives by a campaign of blame waged against the most disenfranchised members of society. The poor, racial minorities, gays and lesbians, are easy scapegoats.

According to Parenti,
capitalism rewards the impulses of exploitation, accumulation, competitiveness, ruthless self-interest, individualized aggrandizement, scarcity psychology, and indifference to the sufferings of the disadvantaged. Such impulses make it conducive to gender and racial oppression and make sexism and racism functional for capitalism. [C]apitalism relies on sexism as a diversionary force. Conservative leaders seize upon irrelevant foes to channelize popular discontent away from socioeconomic conditions and toward "cultural" controversies. They use "non-class" issues like abortion, affirmative action, the traditional family, pornography, homosexuality, and sexual morality to preempt any critical examination of who gets what, when, and how. Feminists are targeted by conservatives as one of the groups that represent what is wrong with America (1994, p. 149).

In many respects the technological utopians are like Parenti's new age inspirationists. Their rhetoric encourages us to ignore political and economic realities and to buy into techno-hype by adopting a path to self-improvement that hinges on our own initiative, supported of course, with a fast new personal computer. We are encouraged to see our financial successes or failures as due entirely to our own actions. If successful we can take pride in our accomplishments, if we fail we must accept the shame of defeat. Viewed from this perspective, policies that support the sharing of resources with all people are seen as counter to the interests of the whole group. As Dudley points out, "the Darwinian imperative cautions against charity by putting the onus of survival squarely on the shoulders of the individual . . . If the strong slow down to let stragglers catch up, the whole society will soon find itself mired in mediocrity" (p. 75).

Everyone is supposedly the author or his or her fate . . . Such notions can be carried to chilling extremes by right-wing ideologues. Thus Eileen Marie Gardner, special assistant in the U.S. Department of Education during the Reagan administration, maintained that even the handicapped and disabled make their own destiny[.] "nothing comes to an individual that he has not, at some point in his development, summoned. Each of us is responsible for his life situation . . . There is no injustice in the universe. As unfair as it may seem, a person's external circumstances do fit his level of inner spiritual
development. . . Those of the handicapped constituency who seek to have others bear their burdens and eliminate their challenges are seeking to avoid the central issues of their lives." (Parenti 1994, p. 18).

**Information Technology and Employment**

Are single mothers, old-fashioned librarians, feminists and the disabled entirely the authors of their own fate and responsible for the economic troubles facing North American society? Probably not. It is more likely that "capital flight" has something to do with the widespread displacement of workers and the geographic shifts in wealth that are evident across the globe. As Dudley explains, during the 1980s,

overseas investments strategies of United States corporations changed dramatically. Instead of investing in domestic production for foreign markets, major industrial firms began producing goods abroad for import back into the United States market. During the late 1970s and 1980s, disinvestment in domestic operations showed up on corporate balance sheets as "excess production capacity," and thousands of idled factories were closed. (1994, p. 37).

Adding to the displacing effects of the rapid movement of capital, the nature of work itself has changed dramatically as a result of change arising from new microelectronic technology. This technology, upon which the information economy depends, "has distinct characteristics for which there are only a few historical precedents. . . . It is not a technology which is restricted to one sector of industry or one occupation, but can be described as a 'heartland' technology which pervades the world of work and society generally" (Gill and Krieger, 1992, p. 331). Indeed, it is because of its very pervasiveness that information technology can change the economic fortunes of entire nations and enhance or disrupt the lives of millions of workers.

Given its potential impact, it is not surprising that there is no topic over which the ideological split between the technological utopians and antiutopians is more pronounced than with respect to employment. Information technology's proponents argue that it presents the best opportunity for future participation in the work place, while its detractors worry over its potential for deskilling and the eventual elimination of many kinds of paid work, as mental labor, as well as physical, is replaced by machines. Fears about information technology's potential for job elimination are usually countered by economists who predict a balancing effect in workforce distribution that will result, eventually, in a zero net gain/loss in employment due to the technology's combined impact of increased efficiency (i.e., lowered rates of employment) and economic growth (i.e., job creation). To date, the evidence indicates that information technology does bring with it the opportunity for occupational upgrading through the creation of some new high tech jobs. However, there is also little doubt that many people are being displaced and deskilled as a result of technological change in the workplace. As one analyst put it, "in short, instead of replacing bad jobs with good jobs, computers are likely to create some good jobs, some bad ones, and eliminate a lot of others" (Kraft 1987, p. 100). Even some computer programmers find themselves driven out of work by the very technologies they helped to create.

Probably the best way to characterize the long term outlook on employment levels is that it is uncertain. Unfortunately, "the romantic appeal of high-technology occupations far exceeds the real prospect of employment in those fields, and most people will have to hope for jobs in more familiar areas. The problem will be to find such jobs as industries' demand for labor declines" (Dolbeare 1989, p.
"The question is whether the rate of job creation will equal or exceed the rate of job consolidation and elimination. [So far] no one knows" (Chamot 1987, p. 28). We do know, however, that "there has been a dramatic decline in the creation of [well]-paying jobs since the early 1970s. From 1963 to 1973 almost nine out of every ten new jobs created paid middle-income wages. From 1979 to 1986 that figure shrank to only one in two" (Dudley, 1994, p. 33). Today we find ourselves in the midst of a "jobless recovery." Companies that are making vast profits continue to trim their payrolls by reducing the number of employees, even in the communications sector in which the promise of high-tech employment is supposedly greatest.

**The Commodification of Information**

Downsizing is also rampant in the public sector. For instance, over the past decade, the capacity of public sector libraries to maintain reasonably open access to information for all who wish it has been seriously undermined as a result of underfinancing. In the United States, the depository programs through which public access to government information is supposed to be maintained are inadequately funded and provide "minimal training and support for assisting users in accessing technologically based information." Furthermore, less and less information collected at the public's expense is available in print form and materials preserved in electronic formats are not part of the depository system (Gray 1993). As well, government information itself is increasingly becoming the object of commercial interest.

As more information is commodified and as microelectronic technology proliferates, not only has the price of materials traditionally purchased by libraries risen sharply, but there is increasing pressure to acquire or buy access to a myriad of other information products. To cope with the strain this places on operating budgets, many library administrators have not only tried to reduce labor costs by reducing the proportion of professional librarians on staff, but they have also introduced user fees, thereby reducing the quality of service to the majority of users and bringing the public sector library into direct competition with vendors and compromising its mission to ensure universal access to information.

The human system that we have relied on for many years for our information infrastructure, has been made up of what are, for the most part, public institutions -- government bodies such as national libraries, data gathering agencies such as Statistics Canada, as well as thousands of public, university, and school libraries. What is now being touted in public policy promulgated by private sector interests is an enthusiastic pitch to replace this system with a new electronic infrastructure. Inevitably, this will have a deleterious impact on all but the most advantaged members of society. As Schiller explains,

In the reallocation of information resources now occurring throughout the economy from one set of users (the general population) to another (mostly corporate business users), one principle prevails. It is the market criterion -- the ability to pay. This determines who will receive and who will be excluded from the benefits of the information-lubricated economy. . . . Transforming information into a saleable good, available only to those with the ability to pay for it, changes the goal of information access from an egalitarian to a privileged condition (Schiller 1989, p. 75).

The more information is commodified, the greater the schism between the information "haves" and "have nots" as the public institutions that formerly played a role in closing this gap, including public sector libraries, become less and less potent. With commodification, "the principle of public knowledgability, of the availability of information resources as a public service -- an ideal imperfectly
realized at the best of times -- will be undermined." This parallels
"the subversion of public service broadcasting . . . and the disman­tling of publicly owned communication systems (Robins and Web­ster, p. 64). It also corresponds to the promulgation of a new
ideology in public education. As education theorist Henry Giroux's
points out,

education for self and social formation gives way to a view of
schooling reduced to the imperatives of corporate self-
interest, industrial psychology, and cultural uniformity. Un­
derlying the social relations that inform this notion of educa­
tion is a view of the public as an aggregate of competing
consumers whose commitment to justice, freedom and human
worth is defined primarily through the logic of material and
economic considerations (Giroux 1988, p. 18).

Conclusion

In our own profession, old-style librarians who advocate for the li­
brary as an important social institution and physical place for all
citizens are denigrated for being "old women" (whether they are
male or female). In favor now are the new, male-style information
specialists who promote a vision of the virtual library in which di­
rect human contact is replaced with access to fast computerized in­
formation networks, financed on a per-use basis.

The undermining of a shared-service ethic and those who espouse it
in librarianship and other feminized professions cannot be under­
stood without reference to changing global economic patterns
which are supported by public policies shaped by a widespread faith
in the self-regulatory powers and inherent goodness of free market
forces. This faith is bolstered by high-tech gurus and others who
promulgate the ideology of individualism. One effect of this has
been to undermine the public infrastructure which has been built

over the years in order to share collectively our resources with all
members of society. Those of us who resist the present redirection
of resources are silenced by those who cast us either as villains or
incompetents. Their fear, of course, is that we will interfere with an
economic imperative that benefits only a small, advantaged group in
our society.

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INFORMATION TECHNOLOGY AND THE FUTURE OF WORK

by Stan A. Hannah and Michael H. Harris

Virtually all students of the information age suggest that the nature of work, and work arrangements, will be dramatically impacted by what Daniel Bell has defined as "intellectual technology." That is, the emergence of a "computer-assisted 'theoretical knowledge' universalized by telecommunications" (Archer 1990, p. 107) has the potential to revolutionize the nature of work in the post-industrial era. As H. V. Savitch (1988, p. 5) recently noted: "Boiled down, post-industrialism is a broad phenomenon that can be gauged along multiple dimensions. It encompasses change in what we do to earn a livelihood (processing or services rather than manufacturing) as well as how we do it (brains rather than hands) and where we do it (offices rather than factories)."

Ironically, while Bell (1980) argues that the post-industrial era may well have a "decisive" impact on "the character of the occupations and work in which men engage" (p. 501), he offers very little serious analysis of how he feels the technology will impact on the workplace. Numerous scholars have noted this blindspot in Bell's scenario, and have gone further to suggest that his brief remarks on the question are hopelessly utopian and too often contradictory. Margaret Archer (1990) notes that the result is an unconvincing and casual attempt to rewrite Emile Durkheim's (1984) classic Division of Labor in Society "with a happy ending" (p. 101).

A careful student of Bell's work will find it full of provocative and often contradictory comments on the nature of work in the post-industrial era, but little can be found in the way of thorough

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