
Technology and Power

on Parliament Hill

David Daubney, M.P.

This decade has been touted as the beginning of the real "information age", the product of a revolution in technology which would allow us to create, manipulate, store and mass produce information faster than ever before. These claims are not just hyperbole. The annual turnover of the information-based industries, those activities involved with manipulation, storage, production and consumption of information, will, according to some estimates, reach two thousand billion dollars by 1990. They constitute the largest group of industries in the world.

Members of Parliament and their staffs are part of the information industry, using information as a commodity, as a tool to shape policy, as something to be protected or liberated. The coming of information automation on Parliament Hill is something which has been promoted for several years. Until recently, most Members of Parliament in Ottawa had nothing more sophisticated than a telephone and an electric typewriter and only one of those to aid them in the manipulation and distribution of information. Long after other elements of the Canadian information economy were benefitting from computerized filing and retrieval of information, MPs and their staffs were wading through a growing pile of paper, stacked in filing cabinets, on top of them, behind desks and in hallways.

When the provision of word processors, computerized telephones, a video system permitting MPs to call up news reports on demand, and machines permitting MPs to gain instant access to computerized data bases was announced two and one half years ago, there were great expectations for dramatic improvements in the role private members could play in Parliament.

Two and one half years ago many MPs were enthusiastic about the prospects this computerization held for the increased independence of MPs. Access to information is, after all, essential to the definition of political and

economic issues, and the development of policy options. Until recently, only government ministers had easy access to such information through the bureaucracies and the resources they controlled. So, giving MPs the new technology seemed to be a hopeful sign for the decentralization of influence, if not of direct power, in Parliament. Will information technologies finally give private Members of Parliament the access to information they need for an effective role in policymaking? Will this access contribute to decentralization of policy development?

Many of us were optimistic, but then we had telephones which worked; old black telephones, squat and simple, but functional. These were replaced with panels of buttons on our desks which were supposed to allow us to make conference calls, computerize our dialing, and forward business calls to our homes. They work well now, but the first year of operation was a trial in more ways than one. We would have been happy had the new devices been as reliable as our old phones, and many MPs had their old phones reinstalled in their offices for use during the periods when the new technology failed us.

Implementation of innovations is always more complicated than proponents of change anticipate. Early problems abound, substantial adjustments have to be made. We still look forward to the ability to obtain information directly from government's computerized data banks, but our acceptance of the early hyperbole is tempered now by an appreciation of the difficulties the technology will impose on us.

Computerized word processing and record storage devices were supposed to have ended the paper glut in modern offices. This might be effective in libraries where some material is stored in computerized memory banks, but in most of the offices the net result of word processing and storage technologies has been an increase in the paper produced, not a reduction.

Nobody really trusts the reliability of the new technologies sufficiently to eliminate paper filing systems.

David Daubney is the Member of Parliament for Ottawa West.

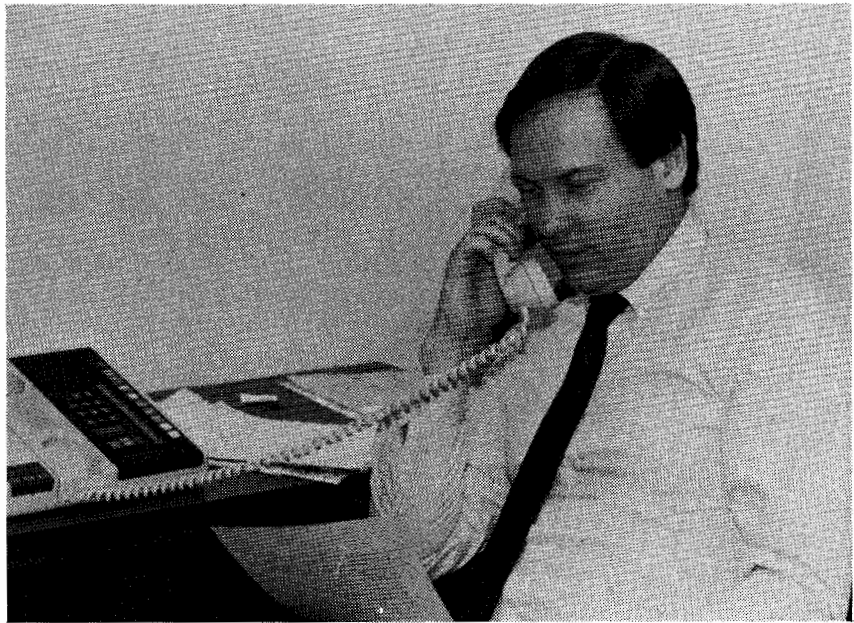
The result is that most of us now have duplicate filing systems paper in our files, backed up by digital memory in our computers.

Rather than reducing the paper flow, the new technology has increased it. In the past, with more primitive technology, manual typewriters, carbon paper, perhaps the use of a printing press, it was uneconomic for individuals to produce or distribute a large amount of written material. Such material was screened, produced and distributed by centralized offices in large organizations, to keep costs down. The net result was a limit on what was printed and distributed, and centralized control of this material.

Today, word processing machines make it easy to write and edit anything we want, and our photocopiers are publishing machines. Control over the distribution of information is therefore already decentralized. This is the positive side of the technology. The negative is that with this new freedom has come an avalanche of paper, a deluge of information. We are in the midst now of an information overload.

There are now more than three thousand public on-line data bases available in Canada, and more than 400 publicly accessible international data banks. When direct computerized access to data banks is made available to us, in Parliament or in businesses across the country, the paper flow will increase, because electronic messages are ephemeral, and to human beings, untrustworthy. We will be adding printouts of on-line information to the mass of reports, letters and memoranda filling our filing cabinets today. There is no doubt that the new technology will give us access to new information, huge amounts of information. But information alone is just dead weight. It needs interpretation to make it fly.

Dependency is the real problem. The more complex the technology we work with, the more dependent we become on others to service and maintain it. On-line access to data banks may reduce our dependency on the bureaucracy for information, but will not reduce our dependency on outside interpretive resources. Ministers, the bureaucracy and central party research bureaus have the resources, human resources, to sift through the menu of information offered, to select and reject, and then interpret the material chosen. Their power is derived not just from their access to information, but from their access to the interpretive resources which make meaning of the information, and thus allow them to direct public and private policy debate. Opposition parties may be able to make use of new information, using the interpretive resources available to



An effective telecommunications system is vital for MPs.

their caucuses, but the power to direct the use of those resources will be centralized within their parties. Individual MPs, whether government or opposition, may remain dependent on their central party research bureaus to interpret the information available, to help make sense of it all. Government, of course, will continue to dominate and direct debate, using the vast interpretive human resources of the bureaucracy to support it.

Unless strengthened committees and individual MPs are given the budgets to engage more researchers, possibly the only alternative means of liberating interpretive resources is through a strengthened and liberalized access to information legislation, giving all MPs direct access to interpretive documents and memos provided in the course of policy development within the bureaucracy. Even that would not give the MP equal access to interpretive data, because only government would have the power to direct the interpretive activities of the bureaucracies to specific questions.

The fact is that politicians need intermediaries to help them realize the benefits of access to information. Right now our only real intermediaries are a group of talented but overworked researchers in the Library of Parliament. So what does the new technology have to offer us in this regard? One technological development receiving growing attention in recent months has been the development of artificial intelligence, the search for a system permitting computers to organize high-level symbols, concepts, ideas. The most popular manifestation of the application of primitive artificial intelligence to human needs has been in

the development of "expert systems", programmes which help human beings interpret complex data.

Expert systems have been developed, and are being developed to perform diagnostic activities in medicine, to aid chemists, biologists, geologists and engineers in their work. It is tempting to ask if they can be applied to politics to assist in the interpretation of complex information for policy purposes. The answer is probably that they cannot. Political questions are broad and fuzzy. Expert systems require a defined set of rules for making decisions, and a huge amount of structured information about a very specific field of knowledge, if they are to work. Although programmers are working now to devise more flexible expert systems, right now they are very rigid, and require human experts to verify some of their judgments. So far, there has not been devised an expert system which can learn from its mistakes, an indispensable element of political decision-making.

Expert systems are most useful for structured tasks, usually far down the decision-making structure. They are least useful, as are other information technologies, for "fuzzy searches", which are at the heart of policy development. Anyone who has heard an average political speech will recognize a human being, the politician, struggling with a "fuzzy" task. Political speeches appear particularly fuzzy to technical experts used to dealing with hard technical data, but that is because political decisions involve many more unpredictable variables than do scientific ones.

Valiant attempts have been made to quantify political practice, to create a political science, but as any practicing politician knows, quantitative techniques are just tools in the search for political answers, not the answers themselves.

The people developing expert systems are now trying to build into them the ability to deal with probabilities, rather than with certainties. To the extent they succeed in designing a system which can deal with ambiguity, they will begin to approximate the reliability of human experts in economic and social affairs, people who always work with uncertainty. The best of these human experts admit the uncertainty of their knowledge and the limitations inherent in their predictions of human behaviour.

Quality control in manufacturing has come to be associated with an absence of variation from a desired norm. Computers and automated devices are designed to reduce or eliminate variations, which we perceive as flaws, and those countries such as Japan which have the most heavily automated, computerized production systems also have a reputation for consistent quality. The converse is true in human affairs. Research into the implementation of innovations affecting human behaviour clearly shows that variability is the key to successful implementation.

Expert systems depend for their success on the development of rules which govern the analysis of information, but creativity is built on the escape from the confines of the rigidities established by rules. Revolutionary ideas meet initial resistance precisely because they do not conform to the rules dominant among experts. Darwin, Freud, Marx and Einstein challenged existing rules, and created new ones. Their insights affect the way we live today.

There is a real need in dealing with human affairs to know when the rules do not apply, when personality, culture, or situational idiosyncrasies make the rules irrelevant. Those who believe their cultural rules apply to everyone else are the most pathetic victims of culture shock. Culture shock is a painful but effective learning process which leads to the appreciation of the variability in the cultural rules governing human behaviour. An expert system would not have the grace to develop culture shock, to learn from its initial confusion.

Political decision-making, in any case, would require a larger number of individual expert systems, because politicians deal with a wide variety of topics and tasks in their daily work. Right now, there is only one expert system which can handle the variability and ambiguity of political analysis, and that is the human being. People do not vote for computer systems, they vote for other people. There can be no electronic substitute for the special mixture of logic, emotion and intuition which human beings bring to policy formulation. There can be no abdication of responsibility for making the tough decisions politics demand, and information technology alone will not decentralize decision-making in Ottawa. ☎