"Newspeak" and the Information Society

by **JOHN MEISEL***

It is not entirely coincidental that the first Chancellor Dunning Trust Lecture should have been given in 1948, the very year George Orwell was working on his classic *Nineteen Eighty-Four*. For the purpose of the lectureship is "to promote understanding and appreciation of the supreme importance of the dignity, freedom and responsibility of the individual person in human society," a theme which is at the very heart of Orwell's masterpiece. And it is a theme which, although always timely, was particularly tantalizing to the minds of acute and perceptive people in the immediate aftermath of the Second World War, when they sought to fathom why and how the obscene excesses of Hitlerism and Stalinism could have occurred in an allegedly civilized world. And while these particular abominations have now receded into the history of human depravity, newer forms of such incipient or actual barbarisms continuously threaten mankind, as Orwell's satire suggested they would.

Our task is to explore the extent to which Orwell's nightmare has been realized and therefore to take stock of whether *Nineteen Eighty-Four* is, indeed, upon us. An appropriate response to this challenge requires that we start by determining what Orwell really meant. This is not as simple as may seem at first glance. I doubt whether any book written in the twentieth century has given rise to as much debate.

Like most great works, *Nineteen Eighty-Four* is being reinterpreted by many of its readers in their own image; they tend to find in it what they would like to see or, more precisely, what they would *not* like to see. Orwell is perceived as exposing evils which each reader finds particularly vexing in his or her society or in the world. A recent collection of essays entitled, *"1984" Revisited* focused, on Stalinism and/or Hitlerism, authoritarian tendencies in liberal democracies, the consequences of mass-consumption society, the result of malevolent schemes hatched by large corporations or big government, the logical conclusion of the welfare state or the unwitting consequences of the information society.[1]

While I shall dwell on aspects of the last approach, I must first state categorically that I reject the idea that Orwell's vision of 1984 is upon us. This is not to say that we are not in deep trouble, that Orwell's marvellously abhorrent invention is not a most apposite warning. It is, and needs to be read as such. But it is prophetic, it is not a prophesy. It deals with what *may* happen, not with what will inevitably happen. The total depravity of "Big Brother" is not among our problems, largely because there is no "Big Brother."

Let me explain. I agree with Arthur Schlesinger Jr., who has recently argued that, in *Nineteen Eighty-Four*, Orwell was not visualizing a world in which authoritarian tendencies evident in liberal democracies had achieved monstrous totalitarian features. "Orwell," says Schlesinger, "was writing about something radically different. His vision was of a society absolutely controlled by absolute power using absolute terror to remake the human soul."[2] According to this interpretation, the object of the Orwellian state is completely to remake the nature of man. The idea is not just to use the human raw material for its own ends but to refashion that raw material — the minds of us all — to suit the state's purposes.

Schlesinger astutely cites O'Brien, the great inquisitor of *Nineteen Eighty-Four*, as saying that "Power is tearing human minds to pieces, and putting them together again in new shapes *of your own choosing.*" The key words, of course, are "of your own choosing." They conjure up a willed, planned effort to shape the personalities of people consciously. The horrors of totalitarianism are here being created according to a specific blueprint. While I see many of the tendencies of *Nineteen Eighty-Four* in the world around, and ahead of us, I do not believe that it is evolving according to any consciously devised plan. The process is not unfolding according to the design of a gang of power-hungry political or corporate ogres but results from a series of not always related, random, spontaneous phenomena. These result from a host of forces linked to technological, economic, political, social, psychological, and other factors. Their spontaneity and randomness does not, of course, make them any less dangerous!

Technological change, and most notably, perhaps, change in communications technology is one of the developments which therefore needs to be considered among the threats to freedom and among the possible contributors to the emergence of a world like Orwell's in *Nineteen Eighty-Four*. The title of my lecture suggests that I propose to do just that — to explore the relationship between the information society and the Orwellian landscape. The notion of considering the relation between fundamental changes in communications and new forms of language-use makes a lot of sense, and recourse to Orwell's inspired invention of "newspeak" was irresistible. But my intention is, in fact, to go well beyond the merely linguistic aspects.

My purpose is to see whether the emerging information society is likely to lead, or is inevitably leading, to a world resembling *Nineteen Eighty-Four*. I shall start by briefly describing what I mean by the "information society," then assess some of its dominant features in relation to a presumptive totalitarianism, and conclude with some comments about the likely future.

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2   Schlesinger, "Familiar Barbarities," pp. 24-25.

Notions of the information revolution and the information society are becoming so commonplace that they hardly need any explanation. The name given the technological base which has made these changes possible is telematics or compunications. We are dealing here with the consequences of fusing sophisticated computers and advanced communications devices like fiber optics, satellites, interactive cable, digitalization, and a host of other dramatic new technologies. Add to this the increasing use of robotics, videotapes, videocassettes, and major breakthroughs in switching and other advances in telephony, and you find yourself in a world which dwarfs the lively imaginations even of such daring visionaries as H.G. Wells, Jules Verne, and Aldous Huxley.

Both work and leisure are being transformed by these changes, not just quantitatively but qualitatively. One of the results is that industrial production is becoming less and less important as a source of employment and as the motor of the economy. Information and communications are now the wellsprings of wealth. In the United States, nearly half the labour force is involved directly or indirectly in information industries. It is said that ABBA, the rock group, has a more positive impact on the Swedish balance of payments than Volvo. Knowledge and information and the industries producing them are becoming, according to Daniel Bell, "the strategic resources and transforming agent of the post-industrial society."[3] It is my view that a compelling argument can be made for the case that the current changes are so profound that they combine into a vehicle for a nearly cataclysmic re-direction of human history. It is held by some that the currently evolving era will differ from the industrial age as much as the latter was distinguished from the feudal period.[4]

The storing of records and other information in vast networks of data banks cuts across international boundaries and at the same time threatens the privacy of individuals while bestowing unprecedented powers on corporations and bureaucracies.

There are many cable systems now which enable the viewer to interact with (that is, to talk back to) the cable company or computer programme providing the services. Noises, temperature changes, and utility meter readings originating in the home can be recorded in the offices of the cable company. A similar inventory can be maintained of any conversation between the viewer and the computer memory.

A subscription to a state-of-the-art cable system therefore now permits a cable company and suppliers of other services (and whoever else may gain access to their computers) to have a record of their customers' views on political and other issues, entertainment choices, purchases, banking transactions, air or train travel, car rentals, and movements at home, and educational activities. At the same time, government agencies can have records of everyone's medical history, income, occupational movements, social services, and violations of the law — real or alleged. Since data banks can easily be interconnected, it is theoretically

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3   Daniel Bell, "The Social Framework of the Information Society," in M. Dertozous and
    J. Moses, eds., *The Computer Age* (Cambridge, Mass., 1979), pp. 193-94.
4   John Meisel, "Space Invaders: Some Canadian and International Implications of Telematics,"
    in *Studies in National and International Development* (forthcoming).

possible for interested parties in government or the private sector to put together an amazingly complete set of facts about a great many individuals, possibly including the most intimate details of their lives. Prodigiously efficient records-keeping, ubiquitous video cameras and sensors, and the thoroughgoing automatization of banking, shopping, book-borrowing, phoning, taxi-dispatching, and virtually all else therefore makes Orwell's 1984 a real possibility, insofar as technology and economic organization are concerned.

But this, strange as it may seen, is only one, and not necessarily the most insidious, feature of the information society. There are other, more subtle processes which, if not countered, may plunge us unwittingly into a world resembling Orwell's monstrous vision. The widespread application of computers to educational, entertainment, and other purposes is likely to affect the language, and hence the thought processes of individuals. Computer languages resting, as they must, on a binary base, simplify concepts and invite their reduction into a limited number of dimensions. They must, unlike human languages, always be literal and cannot deepen reality by resorting to allegory. While these shortcomings can to some extent be compensated for by ever more complex elaboration, most users are likely to stop short of this process. A cable subscriber, utilizing the available interactive services, constantly makes exceedingly simple choices of the kind requiring only "yes or no" answers or, at best, of the kind invited by multiple choice tests. This is likely to mould the language and perceptual universe of people into exceedingly simple channels far removed from the complexity of the real world. No harm may come from this in relation to shopping; however, important social, political, and philosophical decisions may be impoverished by linguistic reduction induced by ubiquitous computer use. It is conceivable that this may lead to a greater disposition to accept the simple, falsely facile rhetoric favoured by authoritarian creeds.

Increasing reliance on computers and their display panels is likely to bring about a major reduction in paper work and in the use of printed materials. Now it is well known that the impact on the mind and society of the oral tradition differs widely from that of the written one. Extensive use of "soft" texts may induce sloppy thought and argument, lacking the benefits derived from the permanence and different distribution patterns of the "hard" copies of the printed media.

But it is in any case probable that the print industry, whether in relation to books, magazines, or newspapers, will decline. And such printing as remains will become integrated into the world of telematics, which combines computers and communications networks. "Print, as much as television, will," in the words of one observer, "move through the air and along wires — and right into the lair of the electronic media's two-headed monster: government regulation and corporate monopoly."[5] While I cannot quite accept the view that regulation is a monster, I do recognize that government has intruded much more extensively into the activities of the electronic media than it has into printed materials. The fusion of the two may therefore reduce the traditional freedoms accorded

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5   Michael Pollan, review of I. P. De Sola Pool, *Technologies of Freedom* (Cambridge, Mass., 1983) in *Channels* (September-October 1983), p. 61.

the printed word. This matter is of particular concern to some Americans who fear that the new technologies are undermining some of the protection provided by the First Amendment of their Constitution.[6]

Even more important, to my mind, is that the integration of printing and telematics may reduce the number and sources of available data and arguments on public issues. Such a reduction would be particularly unfortunate because one of the disadvantages of computer memories is that they of course only contain what someone has put there. This means that an individual can retrieve only a limited range of materials, the composition of which is determined by certain organizational or personal factors which may not be responsive to the exigencies of freedom of information. The whole range of the periodical and ephemeral press, and the offerings of libraries do not suffer at present from such impediments. The high costs of establishing data bases favours the greater availability of material acceptable to governments and large private organizations as compared with that relating to arguments of unpopular minorities. It is doubtful whether the content of *I.F. Stone's Weekly* — a now alas defunct, devastatingly effective, anti-establishment organ — or of *Cité libre* would ever have seen the light of day had their originators lived in the era of the information society.

A little while ago, I suggested that the extensive early and continued utilization of computers might affect our language and hence our thought. There is yet another way in which the latter may undergo change:

> Will the new reliance on visual images, and on display screens with its lavish graphic presentations, and the decline of the printed page as a method of perceiving reality, lead us to a different balance between the right and left hemispheres of the brain? The left hemisphere is related to comprehension of written and spoken language, and controls such logical processes as mathematics. It is linear, scientific, rational. The right hemisphere, on the other hand, is involved more in non-verbal activities of an artistic, spatial, intuitive and emotional nature. Is it possible that the acquisition of information through the new mix of video and audio, alpha-numeric and pictorial signals as seen on an electronic display screen causes a different mix in the role of the hemispheres of the brain, and hence in our reaction to what we perceive? Is the brain, in other words, going to function slightly differently or perhaps significantly differently? Might emotional, aesthetic aspects become more dominant over the calculating, rational elements than was the case when we were overwhelmingly dependent on the printed page? If so, the political consequences could be profound. Emotional or intuitive reference points and arguments might be accorded greater weight than scientific observations and rational, logical discourse.[7]

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6   Pool, *Technologies of Freedom*.
7   John Meisel, "Some Radical Consequences of the Information Society," in J.H. Howkins and Seppo Sisalto, eds., *The ICC in Finland* (Espoo, 1983), p. 79.

We might become more attuned to authoritarian political regimes which would downgrade debate and rely on emotional appeals and circuses in their search for popular support.

Another impact of telematics on the brain also deserves to be noted. The new information order may affect the judgments people make about political issues and, particularly, perhaps the values they pursue individually and collectively, as distinct from the settling of the humdrum details of their daily lives. T.S. Eliot elegantly pointed to the problem in the days when it had not yet become acute: "Where is the wisdom we have lost in knowledge," he asked, "and where is the knowledge we have lost in information?" Are we about to suffer from an information overload? We are surrounded by mounting quantities of facts or so-called facts. This is accompanied by much greater emphasis on the data themselves than on their analysis. There is a very great danger that, as a result, the skills needed to handle information, and make decisions about its meaning and importance may decline. After a certain point there may be an inverse relationship between the quantity of information and our capacity to deal with it intelligently. I was arrested, not too long ago, by the subtitle of a book dealing with some of the issues being raised here. The book is called *Computer Power and Human Reason*, and the subtitle, which can certainly be interpreted in more ways than one, reads "From Judgement to Calculation."[8] Too much calculation can, at times, allow too little time for judgement!

But not everyone is likely to have too much information in the information society. It is, on the contrary, highly likely that a profound gulf may develop between the information rich and the information poor. Since information is increasingly one of the principal sources of wealth, this means that we may be entering a phase in history in which the distance between the haves and the have-nots will grow, both in the world as a whole and within particular states. A facility with and access to computers and their memories, as well as to interactive cable, will bestow immense economic, political, and cultural advantages on some persons. By the same token, inability or unwillingness to use the modern technology will deprive the electronically handicapped of immense potential gains. The geographical location of individuals, their skills, and their inclinations with respect to the utilization of existing hardware and software may prevent some from living fully in the information society. It is difficult to predict how extensive electronic illiteracy is likely to be, but there is at least a possibility that the numbers will be considerable and that the resulting class cleavages may be profound.

In the short run, we are certainly going to experience a serious degree of generational inequality. Many older people will have trouble fitting into the emerging information society and using its primary tools effectively. The resulting inequalities may exacerbate other likely tensions resulting from demographic changes in the age composition of the population and may consequently weaken the underlying consensus which is a *sine qua non* of liberal democracy.

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8   Joseph Weizenbaum, *Computer Power and Human Reason: From Judgement to Calculation* (San Francisco, 1976).

Several other possible developments could alter the societal underpinnings which have made possible democratic regimes with their particular configuration of freedom and restraint. Not all of these changes are necessarily undesirable, but they may have such far-reaching consequences for the societal infrastructures usually associated with liberal democracy that one may wonder whether the political forms which have been dominant in western Europe and North America for over a hundred years now (and which produced Orwell) would survive without them. One of these is related to the work world.

We have already noted that one of the essential characteristics of the information society is a major decline in industrial employment and a rise in the number of people occupied in the information industries. There is considerable doubt whether the massive loss of industrial jobs, caused by robotics and telematics, will be compensated for in the information sector. There is, for the first time since the industrial revolution, an awareness in liberal democracies that structural or permanent unemployment may become inevitable. In other words, unless substantially different forms of economic organization are deployed, large-scale unemployment may be a permanent feature of liberal democracies. The sharpness of the impact of this may be greatly increased because, as the result of the advent of the electronic office, unemployment among women wishing to work will increase disproportionately. This may give an added impetus to the current stress caused by sexual politics in many industrial democracies. The consequences of all this for social policies, for social and political peace, for the educational system, and for the future of leisure industries are unfathomable but certain to be profound.

Additional uncertainties are introduced by the possibility, in the information society, of many jobs which heretofore had to be carried out at a factory or an office, being amenable to execution at home, or any other place for that matter. This, with the increasing use of robots may alter the geography of the work world, residential and transportation patterns, and the very nature of contractual relations between employers and their employees. The socio-political consequences of these changes are, again, almost impossible to predict. It is well to remember, in this connection, that unionization — a critical feature of politics in liberal democracy — could not occur before people were physically concentrated at factories. How is it likely to evolve in a world marked by a thoroughgoing dispersal of large and important sectors of the work force?

The advent of the information society may alter democratic processes in yet another, quite different manner. Interactive cable makes it possible for subscribers to be polled on any subject, including, of course, political questions. Cable therefore makes it possible for large numbers of citizens to be consulted on public issues by means of electronic plebiscites. While this may at first blush appear attractive, it has serious drawbacks. When governments put precise questions to their populations in referenda or plebiscites they are invariably compelled to compress the formulation of complex issues into grossly oversimplified dimensions. The very essence of the issues at stake may thus be distorted or even lost. Furthermore, the manner in which the questions are drafted usually determines the outcome. Plebiscites are therefore rarely the honest, simple public consultations their proponents claim. They can all too

easily be rigged. Direct voting on specific issues by the citizenry undermines the role of the legislature and deprives the decision-making process of the time and insight derived from the extended, full-time, and contextually broad care normally given public questions in conventional democratic procedures. One of the consequences is that the process of arriving at critical decisions fails to benefit from the essential mediating role of elites who, in all societies, and in all regimes, play a key role in relating the consequences of specific decisions to the overall system. They also are likely to ensure that, over time, the overall interests of the population, including those of minorities, are at least partially met. Plebiscites also usually rob the decision-making process of the time needed to reach a full understanding of all aspects of the issues, and to weigh the short- and long-run, and the specific and general, aspects of proposed courses of action.

Because it is technically possible, and with electronic means easily administrated, the change of democratic systems towards the frequent use of plebiscites may become attractive to potential demagogues wishing to "legitimize" their actions by this means.

But even without recourse to plebiscites, polling by cable can easily lead to abuse. If the results of such polls are published, they may seriously mislead the public. Let me give you an example. In 1982 President Reagan announced a new American policy in the Caribbean. Cable subscribers in Columbus, Ohio, the site of Warner-Amex's ultra-sophisticated Qube cable system, were polled about their reaction to the president's speech. Support for Reagan's Caribbean policy, among those polled, jumped by a remarkable degree from 35 per cent before, to 64 per cent afterwards. *The New York Times* reported this shift in an article entitled "A City Swings Sharply after Reagan Speech." Although the piece did, in the final paragraph, acknowledge that the survey was "a non-scientfic rather than a true poll," it failed to make it clear that only a minority of Columbus citizens subscribe to cable and that the poll did not include all of them but only the much smaller proportion who actually watched Reagan's speech. Furthermore, cable subscribers are in no way representative of the population as a whole. They are more affluent than the majority and of course include fewer rural dwellers.[9] Still, the ease with which cable subscribers can be polled, and the temptation, as illustrated by even the august *Times*, of the media to report the results misleadingly, are almost certain to ensure that these soundings of a selected group of citizens will be used in a manner inimical to the health of the democratic process.

It is not easy to control transborder data flows, and satellite footprints tramp across boundaries. One consequence is that in telematics and in broadcasting, new electronically defined regions are emerging, cutting across traditional communities. The process is extremely complex and cannot be explored fully here. One consequence is that strong tendencies towards universalism are emerging, tending to tear down traditional attachments to one's town, region, province, or even country. As these trends become more pronounced, the political culture of various liberal democracies may undergo change even to the extent of altering age-old patterns according to which individuals define themselves

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9   David Burnham, *The Rise of the Computer State* (New York, 1983), pp. 249-50.

in relation to other individuals and groups. New loyalties and even new identities may emerge, radically revising the social and psychological base of political attachments and ultimately of political action. This may result in a great deal of political instability.

Our quick and highly selective glance at the emerging era has revealed that a considerable number of features of the information society could constitute conditions encouraging the emergence of an authoritarian society. But my account so far has been decidedly one-sided. The information age, like all its predecessors, is not always consistent in the characteristics it displays. Consider, for example, the universalizing effects of the new era. No one can dispute these, but opposing tendencies are also evident. The universal, centralizing features of the new technologies are matched by developments which favour particularism and which challenge the unifying tendencies. Among the numerous examples, none is more striking than video and audio cassettes. The former is revolutionizing television viewing by enabling every citizen to become his or her own programmer. The role of the audio cassette is even more ubiquitous, and not only with respect to entertainment. Observers of the ousting of the Shah of Iran by the Ayatollah Khomeini argue that the Shah's authoritarian regime, massively backed by an arsenal of the latest American superweapons was toppled by the widespread, but clandestine distribution in Iran of audio tapes bearing the Ayatollah's message. The cheap tape recorder defeated not only the undisputed local master of the civilian and military power but also that of the United States. Similarly, in North American cities, the concentration of the daily press into ever fewer but larger companies is matched by a rise in the number and vitality of neighbourhood papers catering to the special interests of small localities.

Thus, while what I said about universalism is valid, it reflects only one aspect of reality. The same incompleteness attaches to many of the other arguments I presented. Without retracing my steps completely, and without attempting a point-by-point refutation of my arguments, I will now inject some corrective elements into the discussion. If you think that this is a bizarre way to proceed, be patient: the reason in my method will soon become apparent.

While computer software does impose the reduction of complex phenomena into simpler components, as I noted, it requires that the user proceed with inexorable logic. There probably will be some limiting consequences for language from computer-use but there will also likely be greater clarity and the encouragement to apply "straight," clear thought. Sophisticated users can deploy their computers to deal with the most complex and rambling matters, and to delve into the most arcane nuances. Similarly, the fusion of print and electronics, while presenting the dangers I mentioned, also leads to a much cheaper and more flexible means of communicating facts and ideas and can make them more widely available. The danger of excluding certain kinds of information and opinion from computer memories can be met by taking specific steps ensuring that unpopular, minority or otherwise neglected material is included. And overall, the easy access to so much more information can only enhance the broadness of views and the variety of points of view available, particularly if measures are taken which will supplement the offerings of the major data providers with those furnished by smaller, widely dispersed sources. I have referred to

community newspapers and audio cassettes. Community radio, community programming on cable, the low-power transmitter and similar gadgets and activities can do much to offset the homogenization of data sources available by computer.

Information overload can be contained if the users are trained and encouraged to select and evaluate their data and to reflect upon the significance and the place in the scheme of things of the information they receive. Access to a lot of knowledge need not always paralyze; it can also liberate. The possibility of social, political, and economic inequality being enhanced by telematics is real but not inevitable. UNESCO's activities with respect to the New World Information and Communications Order are a serious effort to deal with this problem at the international level. Domestically, educational, engineering and socio-economic developments can achieve a great deal to offset the existence of an information gap and to minimize computer illiteracy.

Insofar as the changing character of the work world is concerned, and the related likely alterations in residence and transportation patterns, these can be liberating for individuals and communities, as well as unsettling. They can further enhance the equality between the sexes, free individuals for greater leisure and a more effective associational life, despite the consequent greater geographical dispersal. Similarly, the implications of the information society on employment need to be examined closely. We may have to re-think and re-evaluate many of our most cherished assumptions in the social, economic, cultural, and political domains before we can come up with a solution, but we cannot escape forever the need to cope with this most critical issue. Likewise, the undoubted danger lurking in the irresponsible reporting of poll results arising from consultation of cable subscribers, and particularly in plebiscitarian democracy, require careful study. A number of measures can quite easily be devised which would minimize the dangers and maximize benefits. Telematics can lead to the sinister spying on, and manipulation of, whole populations. But measures can be taken to forestall this eventuality. And the ubiquity, portability, and flexibility of contemporary communications and computer facilities can make possible a degree of public participation in decision-making unprecedented in the whole course of human history. The degree of decentralization we can now attain can challenge the monolithic might of huge organizations. Against macro-chaos we can pit the microchip.

What are we to deduce from this quick romp through the delights and traps of the information society? I believe that two conclusions above all leap out at us, providing both a warning and a challenge. The first is that there quite decidedly are terrifying dangers in the fruits of the information revolution. The means are available for "Big Brother" to subjugate the privacy and freedom of us all. But it is equally certain that many counter-tendencies also exist and that many of the features of the new dangerous developments also offer powerful antidotes. The new technologies make possible an unprecedented release of creativity, an unsurpassed growth of individuality, and an unrivalled release of time for the finer and truly satisfying things of life.

The presence of two conflicting tendencies provides us with a choice. We can sit back and let nature or, more precisely, technology take its course, or we

can decide to mould and shape events. We can guard against clear dangers and exploit beckoning advantages. We can enrich ourselves and our world by capitalizing on available opportunities or we can allow ourselves to be buffeted by external events.

This kind of choice irresistibly directs our thoughts to George Orwell. If ever there was a man of action it was he. For while he is, to my mind, one of the finest stylists in the English language, and while he had a compulsion to write, his purpose in life was to correct flaws in society and to direct his readers to reform. Although he had an eye for an amazing variety of detail and although he also greatly loved nature, virtually everything he ever wrote had a deep social and political significance. He wrote so as to change the human condition, not merely to describe it.

Orwell alerted us to the personal and societal tendencies which could so easily lead to *Nineteen Eighty-Four*. He wrote about them because he wanted to mobilize the forces which could forestall the realization of his fears. If he were alive today, when the dangers are so much greater than they ever were in his day, his call to action would be even more insistent. Can we possibly sit back and not heed his alarm?

I think not. An appropriate response requires two essential conditions: a clearly articulated, indomitable will on our part to engage in battle, and the skill and sophistication necessary for the understanding of the information society. With these assets we can be discriminating with respect to what needs to be nourished and what must be starved, and we can deploy the energies needed to act accordingly.

All this is more easily said than done. It would literally take months of lectures and seminars even to begin identifying and elaborating a concrete plan of action. My purpose is to draw your attention to some aspects of the emerging information society, to point to the menace they present, indicate that a considerable freedom of action remains with respect to countering them, and to induce you to become engaged in the struggle to benefit from the opportunities before us and to neutralize the dangers.

But while the scope of the problem we confront and the shortness of time prevent the elaboration of a plan of action, certain pointers can be provided as a launching pad for a successful take-off. Those of us who shy away from technology and gadgets must suppress this aversion and acquire the habits of the new age. We must learn to understand and use the new technology. Parents, schools, and employees, must ensure that their charges attain the new literacy as soon and as thoroughly as possible. By the same token, the "gadgeteers," those developing the new hardware and software, must never forget the social and cultural consequences and keep them in mind when making certain technical choices. An extended and serious effort is required for the study of the issues I touched on ever so lightly. Each of the possible developments in the information society cries out for extensive study by individuals, educational and research institutions, business enterprises, and governments. Each is many-faceted, mind-bogglingly complex and difficult to pin down. Considerable financial and human resources are needed for a proper understanding of what is going on, and of

its consequences. The dangers implicit in some developments, as they are understood now and as they will become apparent as the result of future study and experience, will have to be countered with vigour. This will require powerful individual commitments but also institutional and organizational efforts. To balance the might of large players — public and private — posing a threat, effective organization by alert and aware individuals and groups will be essential.

While governments are part of the problem, they are also part of the solution. They can assist individuals to defend themselves against private and even public encroachments of their freedoms. A good deal of thought needs to be put to devising the appropriate means of building workable defences. Pavlovian reactions, indiscriminately attacking all government activities are out of place, as are total strictures against regulation. While less government may well be desirable, the central issue is not how to undo government but how to improve it. The overall reform of governmental institutions — legislative, executive, and judicial — is therefore needed, carried out against the backdrop of the information age.

In building the ramparts, the necessary balance will also have to be borne in mind between maximizing freedom and protecting the caring society. Social callousness and indifference with respect to the defenceless, the handicapped or the innocent victims of societal trends cannot be allowed to take hold, as they are now doing in some places. The moral and aesthetic values of society must never be overlooked in the struggle for freedom.

The final pointer which comes to mind, inevitably under present circumstances, is that our resolve, strength and sense of direction in this enterprise can be sustained by nothing more effectively than by continuing to read and heed Orwell.

Shortly after *Nineteen Eighty-Four* appeared, Orwell, who was then near death, dictated a press release to his publisher in an attempt to correct a widespread misunderstanding and misrepresentation of his book. His statement, which perfectly encapsulates the message of his life and the argument of my lecture, reads: "The moral to be drawn from this dangerous nightmare situation is a simple one: *Don't let it happen. It depends on you.*"[10]

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10   Bernard Crick, *George Orwell: A Life* (Middlesex, England, 1980), p. 566.