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**Congrès international de l'industrie informatique**

Monsieur le Président,

Mesdames et messieurs d'une foule éminentes délégations de tous les coins du monde pratiquement, de tous les coins du monde technologiquement avancés,

Je voudrais d'abord remercier Monsieur Bilodeau pour ses quelques remarques de présentation...

*As you probably noticed, he did get back to the time when we were practically contemporaries in the young generation here in Quebec but then he went into the fact that even though we may have different views which shows how far we've drifted apart over the years, in some ways, and the fact that he did remind me of all those by elections we lost, but the two general elections we won reminds me of De Gaulle – you know – when we lose the battles but win the wars. He also indicated that I have – I thought I had in my remote professional past, a certain title to address such a gathering but I really thought I had and I found out different because reading just a bit while there were, people briefing me as best they could – just a bit about your field as it is today, I quickly found out how obsolete that title that I thought I had has become by now, because when I think back to what television used to be when I was working professionally just over 20-22 years ago and when frankly I see my head spin immediately looking at what has become and also everything else that has sprung up in the great field of communications, I feel practically like Rip Van Winkle waking up after too long a sleep. We're dodos, even though we don't go back to the Middle Ages – just 20-25 years ago. That shows how quickly the world has been changing and especially in the field that you're active and productive in. But before going into – and I want to reassure you – I won't give you any kind of world-shaking examination of what you're all about because I'm an outsider but before I go into not chapter and verse but a sort of overview an outsider's overview of how we see what you represent, first of all, very briefly, I wish to add, because you had many, I wish to add my welcome and also that of our government to all of you in Quebec city. I want to congratulate you on your first ever, I think, such international conference and thank you because it's very flattering for having selected our Old Capital as its site.*

Je voudrais dire notre plus chaleureuse bienvenue à tous les délégués, à tous ceux et celles qui les accompagnent et vous remercier aussi parce que comme je viens de le dire, c'est plutôt flatteur pour nous d'avoir choisi notre vieille capitale pour y tenir la première conférence qu'ait jamais organisé le secteur proprement révolutionnaire que vous représentez ici.

*You've come from all over the world as far away as Australia, Japan, at the other extreme, Italy, Germany, Sweden, France, Britain, no, when I hesitated before saying France I meant we were coming closer and needless to say all of North America, all over the world, for this very important meeting, very important because information, with all its facets, has become so central to us wherever we live, whether we have too much of it, as we can sometimes fear, or whether we suffer from a lack of it which is still often, too often the case. And you, all of you here as delegates and as leaders of that veritable revolution, the revolution in the tools and*

*the equipment and also in the fallouts, have a responsibility probably without precedent in human history. You know, especially, because that's for sure, that the realities of the information industry are penetrating now into every one's life. The proportion of people whose jobs are related to it as a share of the entire active population is growing by leaps and bounds in practically every so-called developed country, and countries developing in the Third World or what's even called the Fourth World know how much all of that is part of the world they need to belong to otherwise they're nowhere. And governments as well as industry are making increased use of data-processing services: for instance, just in Quebec here, with 6 million people, our public and semi or para-public services spent \$ 211 000 000 on data-processing in 1980, which is 15 % of all such expenditures in Quebec. Look, growth is there and that's obvious, it's a glaring fact. But what is unclear, to people in political life but also to the general public, and maybe even, up to a point to experts such as yourselves, is how people will be able to control, which doesn't mean stifle, but to manage a sort of civilized use of all these new technologies and how, ultimately it will affect all of our lives. We have here in Quebec, at Bell Canada, Mr. Charles Tétreault – who is, I think, one of our best specialists in telematics – now, a few moments ago I was asking people at our table here, do you use telematics, is that a good word, and I was told that « télématique » is something which is used in France, but it's not yet – I looked at Harrap's this afternoon, the last edition, 1977, I was wondering what the hell is telematics in both languages, and it was nowhere. But apparently, in spite of the French Academy, it's used in France but it's not used in English, it's a confusing word. Anyway, one of our best « télématique » experts, Mr. Charles Tétreault in Quebec, who's also a member of our Conseil de la politique scientifique, said recently, and I think it's one of the most insistent questions (I've got at least half a dozen that I locked out because it's already too late, but I could use them) that very insistent question, I mean, was used in a recent address he gave at our « polytechnique » in Montreal:*

*« Nous avons vis-à-vis de la télématique les mêmes réactions instinctives que nos pères face aux nouvelles machines de leur époque. La télématique nous aide à communiquer des pensées sous forme de paroles, de textes ou d'images, à les mettre en mémoire et à les reproduire quand bon il nous semble, et c'est sûr que notre perception de la réalité environnante en sera modifiée. Mais quel sera le nouveau monde enfanté par la télématique? C'est à notre vigilance collective et à notre critique individuelle de guider l'évolution de la télématique vers une maturité technologique qui soit synonyme de libération plutôt que de domination ».*

*In other words, it's a bit of a choice between a new kind of society where everybody will reveal a new lift and a new respect with added powers for individual initiatives or something that could come close to George Orwell's 1984. So, the question for a society is will we be able to guide telematics (I might as well use it in English) anyway all of that tele-everything that we have now, towards a maturity meaning more freedom to people or if it will mean more domination by people who are not even elected. Well, it is an acid test. Many positive things can already be said about the results and especially about the potentialities of the present revolution in the field that you're engaged in. The better the information individuals and groups have access to, the greater the possibilities for choice, I remember reading as a newsman way back, that's not obsolete I think, a saying, a very lapidary saying which I think is still basic: If you are informed, you are free. If you're not informed, you are a slave. And it's still true. So, the greater the possibilities for choice, the greater the freedom. Those new information technologies are extending life through better medecine, for instance, more costly also along*

*the way – I was reading Guilder's Wealth and Poverty and the little I gathered from it was that it's costly now but if you live long enough, it's going to become more, much more. Those new technologies are also extending our potential for human development through better education. (Illiterate, but much more diversified). They are improving productivity in agriculture, in manufacturing, in transportation, in banking, even in government. We haven't seen the results yet. That's a promise we've been made, They could also (that will be the day) improve the quality of democracy and government through a better informed citizenry. I didn't write those couple of lines, I just ... Now we all know that information in its widest sense has always been the basis of all organized human activity ever since the first coordinated grunts of the cave man. It's been the basis for all human activity. And now because the information technologies so much extend the possibilities of the human brain, they hold the promise of incredible new growth – through new data or data seen in a new way, and invariably leading to new meanings, new understandings, new beliefs, even the new emotions and new commitments. So this revolutionary extension of ourselves that we're witnessing is not just for problem-solving, but it affects our very way of thinking and feeling, of doing, of choosing and even of being. It could be something literally to give you panic when you think about it except for one fact which is very fortunate that you can extend the range of the human brain as far as you want or as far as you can, but you can't replace it, until further notice, anyway. There's that great mathematician that was asked about the possibility of computer replacing him eventually and he said « Well I'm not so sure because me at least you can take me apart and put me together again, all together again » you know, Humpty Dumpty, and as long as that uncertain incredible machine that's our brain is still going to have its place in society, there's no reason to fear, but, there is reason to fear that we won't be able to control all this new machinery, in a way which is sufficiently human and civilized and in the most basic sense of the word , progressive, and that we, you know, make sure that we don't end up with something which becomes a sort of dehumanized set up.*

Évidemment on peut repousser au rang des utopies cauchemardesques les visions de ceux pour qui les ordinateurs remplaceraient tout le processus actuel de décision. Aujourd'hui encore puis pendant longtemps, je pense aussi longtemps qu'on sera là, les êtres humains auront besoin d'échanger entre eux, de discuter, de pouvoir se sentir les uns les autres avant de prendre les décisions. Et ça les machines ne peuvent pas le faire. Elles ne remplaceront jamais ce processus fondamental. Une chose certaine, c'est que la question se pose, comment est-ce qu'on peut contrôler cette révolution, la contrôler, pas l'étouffer mais la contrôler de façon à ce qu'elle puisse servir à vivifier, à bonifier les sociétés et non pas à les stériliser, ce qui est aussi un danger.

*Now, with such an eminent audience I guess it's no use for me to dwell any longer on the aspects of the technology you're also aware of the problems it can raise. You know, many of you professionally, how important good and timely information is in the making of good and timely choices, and thus in the final analysis, in being truly free. What we do not know as well, however, is whether we will all have an equal chance for that freedom, for that high quality freedom, in the kind of revolution you preside upon. Since information is so important, in fact so basic to freedom, will we all have some sort of equal access to it. Will we get an equal chance to get the new products because they're expensive, that help extend and multiply information? Will the new products be usable by rich and poor; by managers and workers; by rulers and by the governed? Those are questions that are practically existential and I saw in an address by Mr. Justice Kirby, from Australia, he couldn't attend I think but the text of his*

address was there, and I read it very briefly this afternoon, Kirby's basic question he asked in that address about the availability and the possibility of people getting the best chance possible to understand what's going on around them and what's being done to them, by all of this incredibly revolutionary industry which has developed in practically all advanced countries and on a transnational basis and what it's doing to the way of life of practically everybody. And that, for instance, affects employment, than which, I think, you can't find any more worrisome problem, especially in present day circumstances, in practically all countries of the world. It can't leave governments and it can't leave citizens indifferent. For instance, forecasters, I think, even 10 years ago, 12 years ago, were saying that more than 20 million white collar workers in the United States alone, their whole way of life, their whole possibility of professional employment, keeping on being employed and certainly promoted, were all affected by what's going on in the information industry. Here on the Canadian scene, for example, more recently, in her study of what was going on, Heather Menzies found that as an effect of informatics, the female clerical worker (and we all know that's one of the ghettos for female employment traditionally) but that clerical worker, 90, 95 % female, is rapidly becoming an endangered species. I know that your industry is, or says it is, quite sensitive to what you call the « user – friendly » nature of the new technologies. I suppose this is to mean primarily, if now exclusively, how comfortable the individual feels when using the machine or the machines. I suggest we should all consider very soon extending the concept of « user – friendly » to how comfortable society, at large, feels with the new technology, and where it can cause or is causing undue pain. Especially that, everything in the field that you are meeting here to examine and study and that you're working in at high levels, everything in that field is galloping along at such a dizzying rate. This is part of the world where we're in since World War II especially, in which practically the only law that seems to be still standing is the law of change. And to get back to Mr. Justice Kirby who couldn't attend, M. Kirby from Australia, to quote this address I had a chance to read very briefly: « Earlier, he writes, earlier technology and we all know that if we're a bit older than 30 or 35, earlier technology afforded society time to adjust. But as the U.S. former vice-president Rockefeller said: « The time cushion that previously existed between scientific and technological change and the need for governmental social, legal reactions has now seriously diminished, if not completely disappeared. « That's true, and to say the least, it's food for thought. I think it's a bit reassuring that I see your conference has a good agenda to address some such areas of vital concern: – international trade, that should certainly raise the question of rich and poor; – ergonomics, which is the question of human factors in the work-place and I think that's also a central question; – informatics, which raises the question of jurisdiction between governments and governed, on a national or international scale; and the whole wide field of telecommunications, all that has to do with information distribution, and sharing, and how it can be done in a balanced way.

Et comme les technologies de l'information et leur impact sur notre liberté nous importe à tous, de même ces sujets que vous abordez ici sont importants pour nous et pour tous ceux dans le monde entier qui comptent que vous assumerez votre part, car vous en avez une, très sûrement, votre part de leadership en traitant des problèmes que causent des progrès que vous provoquez vous-mêmes. Sans doute que je pourrais m'arrêter ici en vous souhaitant le plus grand des succès à partir des idées, des solutions que vous allez ramener avec vous de ce congrès et je l'espère que vous nous laisserez aussi à nous, en nous quittant, mais je m'en voudrais de ne pas vous parler brièvement du Québec, mais très brièvement, je vous rassure tout de suite, puisque vous l'avez choisi comme site de votre premier congrès.

*As you know, we, in Quebec, are North Americans, just as fully North Americans as any other North Americans except maybe our Eskimo and Indian fellow citizens because we've been here for nearly 400 years, that's all old as you can find, except for the aboriginal populations, but after 400 years, still over 80 % of us in Quebec speak French, that's quite a difference because as you all know I guess, the rest of the continent uses English just about exclusively. Now this difference in language is not something new for many of you in this room, who've come here from all over the world. But we in Quebec, in our own modest way, have learned some of our own lessons from this difference that we represent. Some of them apply to what you're discussing here during these couple of days. The first lessons we've learned is that if we're to have not only social peace and equity but also real growth, if you don't have that you don't have peace or equity either, our people have to be able not only to live in French but also to work, to earn their living in French, which is their language. Now, naturally, this has an important impact on information products. I know this applies also to many other regions and languages in the world, and therefore that national language support for each of the countries in which you operate, must be in some way an integral part of your business strategies in the '80s and probably also beyond. And that's the basic lesson some corporations have learned and, I think very usefully, are applying.*

Et une autre leçon que nous avons apprise c'est que sans une information de qualité, de haute qualité, disponible au moment opportun, il nous serait difficile de croître aussi rapidement que nos voisins, à notre échelle, bien sûr, et d'être aussi compétitifs. En d'autres termes, nous avons besoin des meilleurs produits de l'informatique que le monde peut offrir, et nous tenons à les avoir, c'est normal, parce que nos industries ont besoin de ces techniques pour maintenir et développer leur place minimale sur les marchés internationaux. Et cela c'est l'évidence même. Et nous croyons que, spécifiquement en français, nous pouvons apporter des choses à l'évolution de l'informatique.

Ainsi, tout récemment, l'Hydro-Québec, qui est notre grande société publique du côté de l'électricité, de la production d'électricité et de la distribution, l'Hydro-Québec a achevé une première série de cours sur l'analyse structurée, destinée à la formation de son personnel en informatique. Et ça, c'est le fruit d'une entente entre l'Hydro et la compagnie américaine Deltak, et qui porte sur la francisation de l'informatique. Et parallèlement, l'Hydro-Québec a commencé à constituer un dictionnaire de technologie informatique, unique en son genre.

*As I just said in French very briefly, another lesson we're learning is that even in our own small part of the world, we have to be right into it as best we can, according to our own means and specific requirements. And I think that French friends here will admit that this sort of, for instance, this sort of meeting head on between French and English here in North America, especially in Quebec, has very fruitful potentials, and I think in France for instance, they've noticed that as far as terminology is concerned, anything that has to do with semantics, tied to anything in the modern world, the continuous evolution of language which is specialized more and more, Quebec is a good meeting place, for people who at least want to cover as best they can two rather important international realities, one the English-speaking world, much wider, but one still very important, in Africa and other parts of the world, here in Quebec and also in France and other European countries, the French-speaking world. So what I was just mentioning, this Hydro-Québec Deltak tie-up, tied also to other experiments we've made in Quebec means we believe we can modestly – speak of some accomplishments even in such a field as the one you represent. But another lesson we've learned however is that we*

cannot allow the import of information products forever to exceed what we produce here, because eventually with the gallop of development and change which is going on, trade imbalances will be such that we wouldn't be able to afford the imported products anymore. And moreover, international trade in the information industry, as you well know, does not only affect balances of payments but it also affects jobs. And that more and more as time goes by. For instance, we estimate that the import of just information services cost Quebec, in 1980, at least 1600 jobs, which in the present context wouldn't sound so dramatic but 1600 jobs among the most interesting, the most promising, the most highly paid and in fact the most germinal for further employment. And we know we are not alone in being concerned about such matters since governments in the United States, in Japan, in Germany, in England, in France, etc... all play more and more a large role in helping their industries to at least get an equitable share of the action that's going on. And the question I think for trans-national enterprises is whether they are merely national government extensions or whether they really strive to respect national objectives that are not the ones of their own home nations. And I think we all know, growingly, that that's not a simple question, in many countries. There are some solutions in the making or at least incipient solutions. For example, multinationals can pursue what's in the jargon called « global product mandates » for instance, missions, let's say where imports and exports tend to be balanced or at least promise eventually to be balanced. For instance, IBM Canada, I was practically cornered by IBM when I came in so I know, they've been one of the prime movers of this first-ever conference, so at least it's a minimum of equity to mention them, since they also have a very important establishment in Bromont, near Montréal, so IBM Canada has developed such an approach, at Bromont, where logic and memory modules are manufactured, I'm told, I haven't seen it so far logic and memory modules are manufactured on a large scale I'm quoting corporation literature, and export it to other countries for assembly into most information products of that company. Well if it's true, it's a hell of a good development. And may add, because we're going to check may I add that recently our permanent interdepartmental commission about purchasing in Quebec has recommended that we extend the benefits of our purchasing policy to such global product mandate which can be translated as « missions mondiales » which makes it even more cosmic.

Car les gouvernements évidemment ont aussi à l'évidence une responsabilité dans le développement des nouvelles technologies. Une sorte de responsabilité qui fondamentalement est plus que politique, qui est de l'équilibre socio-économique de leur société. Et c'est ce que le gouvernement du Québec a reconnu tout récemment dans ce qu'on a appelé le Virage technologique, c'est-à-dire un programme d'action économique pour les quatre prochaines années, qui a été rendu public il y a quelques semaines seulement.

We, as I said, we have decided here in Quebec to put special emphasis in our funding programs, over a four-year period – on the new technologies, and particularly in R & D and in electronics. Government funds, through our Industrial Development Corporation (SDI) will be available from our own, not only the manufacturers, as in the past, but also to soft-ware firms. This is in recognition of some special talents in soft-ware that have developed in Quebec and already shows results and also a lot of promise. And moreover, our Department of Communications is extending its interest beyond the traditional cultural field, which still has central importance, but also into the industrial and commercial aspects of communications. And we're also determined to make very special efforts to ensure that, I think that's the most

*fundamental thing of all, in any society, to make very special efforts to ensure that our young people in sufficient numbers, get a good training for the various jobs and careers provided by the information industry. And finally, in keeping with an approach our government has favoured, we will encourage the establishment of a permanent dialogue, we had a lot of those give-and-take sessions here in Quebec over the last five years and I think that as a result you never have a totally new social contract that's dreaming in colors, but getting people together and trying to find some « rapprochement » between different viewpoints, for instance between Mr. Bilodeau and myself and people like that. We will encourage the establishment of as much as possible of a permanent dialogue among all the public and private partners involved in the whole wide field of new technologies.*

Alors mesdames et messieurs, il me reste simplement à vous féliciter de nouveau pour l'initiative que constitue cet important congrès, le premier de la grande société industrielle que vous représentez et vous remercier aussi d'avoir choisi de le tenir à Québec. Je suis heureux de savoir en particulier que votre ordre du jour, un ordre du jour très civilisé, vous laissera quand même demain tout l'après-midi, la soirée, le temps de faire du tourisme, de visiter ce qui, à notre avis, est une des plus belles villes d'Amérique, juste à l'orée à part ça de sa belle saison.

*And so, apart from the opportunity which the program gives you tomorrow, to see our old capital – which without bragging – we say we believe it's one of the most beautiful cities on the continent, one of the three or four (don't ask me about the three others) but the program gives you a chance to visit Québec and I think, I hope you will use it, but apart from that, just in case you'd like to sample it a bit this evening, before it's too late, I think I've had my say. Thank you very much.*