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**This essay examines the role and function of metropolitan universities, with an analysis of future needs as related to the city and its growth. To this end, the essay reviews demographics, technology development, quality of life, resource needs, and the role of local, state, and federal governments in supporting the growth of metropolitan universities. These statistics indicate that broad dimensions of this partnership between metropolitan universities and their cities must move beyond limited research agreements.**

**A call for expanded agreements in research and development, contracted education, and basic research requires new visions by those who plan for expanded involvement between metropolitan universities and cities.**

# A City and Its Universities

## *A Mayor's Perspective*

The borders between countries no longer have the full importance they once possessed, and the role of national governments is also being reduced. The large cities have become the real centers of exchange of goods and services and of that resource on which increasingly depends their competitive edge: knowledge.

While the developing countries are increasingly becoming the locus of activities that make intensive use of unskilled labor, the industrialized countries orient themselves more and more toward activities of high added value, that require a skilled workforce, state-of-the-art techniques, and hence a constant actualization of knowledge and technology.

To the extent that knowledge has become an essential ingredient of a dynamic economy in Canada, it is evident that those cities that contain concentrations of places where *knowledge* is developed possess a competitive advantage. Universities and research centers provide large urban agglomerations at least five advantages:

- They permit the development of a workforce that is skilled and able to adapt to change or, preferably, to initiate it.
- They allow local industry to benefit from the products of their research activity, and in turn they can take advantage of the expertise developed in the industrial sector.
- The presence of a skilled work force and the intensive technology transfer between universities and industry attract new enterprises. This creates a critical mass in certain sectors that can, therefore, become real centers of excellence for the city.
- In addition, academic institutions contribute to the international connections of their city, which further

enhances the growth of commercial and cultural exchanges between the city and its partners.

- Finally—and one often tends to forget this in our culture, which is focused too exclusively on the quest for economic improvement—universities and other places of advanced knowledge contribute in a very striking fashion to a city's *quality of life* by providing people access to the cultural and intellectual riches the city produces.

In terms of all of the dimensions that I have just described, Montreal can pride itself on being a real university city that puts to good use in its developmental efforts the activities of its academic institutions. The location of most of these institutions near the center of the city facilitates their interaction with the principal economic sectors, which are also found there. In this way, research in medicine, biotechnology, and technology in all of its aspects (computers as well as aeronautical and space industry) constitutes both academic and industrial centers of excellence in the region.

This dynamic network, well integrated into its community, affects areas well beyond the city limits. One can cite not only the international reputation achieved by the best known researchers of Montreal, but also—as I have experienced all over the world—the fact that the approximately 5,000 foreign students whom each year we welcome in our universities occupy leading positions once they return to their countries of origin. We must therefore continue to give them a warm welcome to facilitate their integration into the local setting and to promote Montreal as a university city, which contributes to the reputation of the city at the international level.

In addition, universities reach out, and one must praise them for this, through programs of international cooperation: arriving anywhere in the world, one can be sure to have been preceded by an emissary coming either from a Montreal firm of consultants or from one of our universities. Conversely, the links that the university network has established throughout the world have attracted to Montreal important scientific conferences that produce benefits in terms of money, knowledge, and reputation.

With regard to the contribution of Montreal universities to the quality of life, one needs to mention only the libraries, art galleries, conservatories, and museums that they make available to the public, as well as the publishing activities, theater, music, and lectures they offer. Does this mean that the situation of the university network in Montreal is ideal and requires no change? Certainly not! The system is experiencing a crisis of growth, which is quite understandable if one considers the incredible speed with which it has developed during the past twenty years.

In the province of Quebec, and particularly in Montreal, we have rapidly moved from a traditional society, which reserves the privilege of higher education for its elite, to a modern one in which access to knowledge has become one of the foundations of democracy, of importance equal to equality of individuals before the law and to freedom of expression. The exponential growth of university resources during the past two decades has brought about the creation of new institutions, such as the University of Quebec at Montreal and Concordia University, as well as the enlargement of our older ones: the Universities of Montreal and McGill.

Between 1961 and 1987, the student population has increased by a factor of ten, going from 22,750 to 235,300 in the combined universities in Montreal. Indeed the emphasis in recent years has been on providing access for larger numbers of individuals to undergraduate studies. However, in contemporary Quebec, priority must henceforth be given to the development of graduate studies, with a focus on advanced research activities.

Today's context has changed: the consequences of the demographic explosion that followed the second world war are fading. One must, therefore, expect a stabilization or perhaps even a reduction in the number of undergraduate students. In addition, societal needs with respect to higher education have also evolved: after having prepared a good number of public administrators and generalists for positions in a public sector that itself was growing strongly, the current mission of the universities is more to create the staff of experts able to take hold of the regional economy, with all this implies in terms of administrative, scientific, and technical competence. Universities must also respond to the need for further education and the renewal of competence of the totality of this work force.

This development of society and universities results, as well, in new financing needs. All constituents in Montreal, from the municipal administration to business associations and unions, agree that with the end of the recession of the past decade and its sequence of cutbacks in public expenditures, it is now urgent to ensure adequate financing of our academic institutions. But from where should this financial support come?

A first conclusion becomes evident: the support of universities by the private sector must be enhanced. The contribution of private enterprise to higher education, be it through the creation of endowed chairs, preferential giving by foundations, financing of buildings, or by other means, seems to me all the more desirable because our large enterprises, whether in the area of consulting,

telecommunications, or transport, have often profited from the competences of local graduates. Furthermore, these enterprises also benefit from the possibilities arising from technology transfer, the further education of their employees, and the training of the local work force, all of which are the consequences of a more productive university network.

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State and national governments also have their substantial part to play. State governments must recognize that a significant increase in the financial support for its universities is an integral part of any strategy for developing a metropolitan region, which constitutes the economic motor for the entire state.

With regard to the federal government, it is evident that one expects from it a minimum level of research support corresponding to the relative importance of a given metropolitan region among the country's large university cities. But, of course, in order to obtain a fair share of such support, the metropolitan university must, in turn, devote an appropriate fraction of research projects to urban problems. And in this as in other matters, it again benefits from the partnerships that it can develop.

One could stop the description of the interaction between university and city at this point, and could say, with justification, that the situation in Montreal resembles that of many other large cities on this continent. But Montreal contains a special dimension that it is about to initiate on the basis of its own resources.

We hope to create a new dynamic that is quite unique in terms of the contributions of universities to the community. The municipal administration has begun, only a few years ago, to contribute actively to the development of the system of universities and to the emergence of new sectors of excellence. It has done so by actively linking the universities and the research centers of the region to the study of major urban problems.

This, then, is a further potential advantage that urban universities can offer their host cities: they constitute a reservoir of human and technical resources that the cities can use to deepen their understanding of the social, cultural, and economic phenomena that characterize the urban environment, and hence to further the cities' appropriate development.

This partnership between the city and the universities can serve as an example for the private sector of the city. For example, Montreal has signed agreements with the National Research Institute on Urbanization to develop a socio-economic data bank and

assume the responsibility for scientific studies requested by the city. Studies of the socio-economic profile of one part of Montreal and long-range transportation plans are examples of activities under this agreement.

Another agreement links the city and the University of Quebec at Montreal. The scientists of this institution are exploring alternative modes of waste disposal and are developing scenarios for the rational management of this issue on the basis of a information model they have created. This work supports activities of the city, which is currently adopting an integrated management plan for waste disposal.

Under an agreement with McGill University, scientists are studying how fluoride will be diluted in the river if added to the drinking water of Montreal. This project also includes scientific staff of the Ecole Polytechnique and Concordia University.

Other similar agreements have been drawn up more recently. One of them gives formal status to the collaboration between the Botanical Garden of Montreal and the Department of Biological Sciences of the University of Montreal, through the creation of a Center of Vegetal Biotechnology. Another agreement affects the Center for Building Studies of Concordia University, where simulation of wind conditions will lead to the establishment of construction norms in this field.

In addition, the city and McGill University have negotiated an agreement through which the School of Planning and the Institute of Criminology will establish a cartography of urban zones where certain categories of citizens do not feel safe. Currently, discussions are taking place between the Ecole Polytechnique with regard to a program of applied research on new modes of snow removal.

As you see, the scope of these agreements is already quite diversified. But in order to move beyond these limited areas of research, the city has begun to intensify its organic links with the university network, to meet the needs of the municipal administration in the years to come.

Anyone even marginally sensitive to the situation facing the large urban agglomerations of North America recognizes the major challenges they face during the foreseeable future: problems related to urban spread, the deterioration of the environment, the quality of life available to their residents, the renewal of their infrastructure and their adaptation to new technologies, the continuing updating and upgrading of their work forces, and the modernization of their management systems.

Montreal will ensure the collaboration of its university network in the totality of these problem areas. Collaboration will consist of

agreements regarding research and development in urban planning, regional development, environmental technology, and management systems that respond to the needs created by the decentralization of services to the citizens of the region.

The city also intends to make full use of university resources with regard to contracted education for its employees, to ensure that they are capable of adapting to change. Conversely, the systematic placement of university students as interns in public offices will enable them to experience the workings of a major public administration.

In addition to these missions of instruction and applied research, the city also intends to make use of the basic research mission of the university system. In the crucial domain of managing the urban environment, the thinking of the large cities and their experts is in its initial stages. It is still necessary to create a model applicable to viable urban development that reconciles economic activity, protection of the ecosystem, and the quality of life. This constitutes a major area of reflection for anyone willing to take the risk of embarking on such research.

We anticipate that the totality of these areas of collaboration will create a field of excellence in urban research and will therefore open the door to the exchange of expertise between Montreal and other great cities of the world. With regard to this, one particular dimension of outreach is already being planned: to transpose these local experiments to the level of international cooperation with developing countries.

Until now, programs of international cooperation have focused primarily on agricultural activity, because such activity has constituted the major part of the economy of the developing countries. But cooperative programs must adapt to the radical changes taking place there. Primary among these is the uncontrolled urbanization. It engenders enormous needs and triggers incalculable consequences. Montreal intends, therefore, to participate actively in the activities of universities in urban development at the international level.

As a result of the growing urbanization not only in the Northern but also in the Southern Hemisphere, our global quality of life will be increasingly determined by urban agglomerations throughout the world. The greenhouse effect, the deterioration of the ozone layer, and other critical environmental issues are affected by urbanization everywhere. Finding ways of sharing with metropolitan areas in developing countries the know-how and insights developed through the collaboration between cities and their universities in industrialized countries may well constitute the most important long-range

challenge to our cooperation. We need to develop an effective international effort in order to accomplish this.

This, then, has been a summary overview of what we have already undertaken with you who are in universities and of the directions in which we wish to proceed together with you. The commitment of the city toward its system of universities is a measure of the esteem and the confidence that the municipal administration, leader of development in Montreal, accords to one of its favorite partners.

### *Note*

This article was translated by Ernest A. Lynton from a speech before the Fourth International Urban Universities Conference in Montreal, Canada on September 29, 1989.