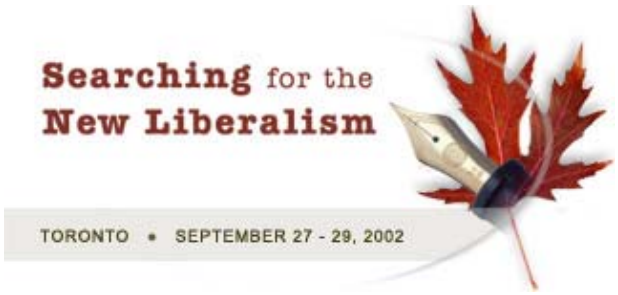

Does Canada Have An Innovation Strategy ?

Comment on Lorne Marsden's Paper

By Kimon Valaskakis, Ph.D.

Lorne Marsden's paper on education was very perceptive and covered a lot of ground from the perspective of higher education seen as an end it itself – a worthwhile goal. Therefore rather than restate her points I will instead focus on the role higher education could play, in the context of the Canadian Economy, which is the subject of this panel. We must ask ourselves how learning and science in our universities can promote prosperity, growth and development for Canada as a whole. This must lead us into considering the question of whether Canada has an adequate innovation strategy, especially vis-avis its competitors in this new era of globalisation.

My response to this question, as an educator, as the former head of a forecasting think tank the Gamma Institute and former Canadian ambassador to the OECD is No ! Our innovation policy is lacking and compares unfavourably with what the other G-7 countries are doing. We are wasting our talent pool and missing major opportunities. In fact, as one OECD colleague put it, *Canada never misses an opportunity to miss an opportunity*.

What are the facts ? The economic history of Canada reveals that we have always had good ideas, offered major intellectual breakthroughs to world thought but have been surprisingly weak in the follow up – *bringing these good ideas to successful economic fruition.* Over time, Canada has been a net exporter of ideas and a net importer of machines, software and other vehicles incorporating these ideas. We are considerably above average in citation indeces. Our researchers are respected and quoted all over the world but when it comes to the next step – translating all this into meaningful economic projects the system lets us down. The standard script for ideas originating in this country is : invented in Canada, patented in the United States, developed and manufactured in Asia and reimported in Canada!

Technological change goes through at least 5 stages. At the beginning is '*scientific discovery*,' a purely intellectual activity. Second comes "*invention*" the application of the new scientific discovery to a technological process. Third comes '*innovation*" which marks the passage to economic profitability in a competitive market. The fourth stage is characterised by national and the fifth, international *dissemination* of the said innovation.

In Canada's case we are very good at stage 1 and reasonably good at stage 2 but much less successful in the passage from invention to innovation and the two dissemination stages. Our history is replete of examples of such missed opportunities. In the mid fifties Canada was poised to become a world leader in aerospace with the Avro Arrow fighter plane. The project was shelved due to lack of courage of our then political leaders coupled with strong pressure from the United States. In the seventies Canada pioneered word processing. One of the first such machines in the world was manufactured by AES Data a Montreal firm now defunct. Word processing was instead marketed by Wang in the United States until it became merged with other functions of multi purpose computers. Again in the 1970s Canada pioneered a videotext machine called the

Telidon which was alpha geometric and was at least a generation ahead of its closest rivals the British and French versions. However it never came to market. Instead the French minitel system backed by the French government and an aggressive marketing strategy took over and reigned supreme until its current dethronement by the internet-capable general computers.

Why is Canada weak in the crucial passage from invention to innovation ? My own view, based on years of studying the phenomenon, lays the blame on our multiple institutional adversary systems. First, the country is so decentralised (considered now to be the most decentralised of the OECD countries, ahead of Switzerland) that there can be no national innovation strategy without the consensus of the provinces. This consensus is difficult to achieve because of competing regional interests : everyone wants the same biotechnology and informatics labs etc. When there were ministerial level meetings on education at the OECD, Canada was one of the very few countries without a national education minister to represent it. In fact during my term of office, Canada was represented by the separatist Parti Quebecois minister of education, advancing his own views and policies and not necessarily Canada's.

The second adversary system exists both between universities and real world actors and within the universities themselves. The gap between universities and real life challenges is still wide although in the process of shrinking. Most contemporary challenges are interdisciplinary and intersectoral. Nature is not divided into a department of economics, a department of sociology, a department of environment. Unfortunately, universities are still divided along disciplinary lines. Although many efforts are made in the direction of interdisciplinarity, promotion criteria within universities remain very monodisciplinary. Every discipline has a short list of major journals for all tenure track professors to publish in if they want to be promoted. In most cases these journals are monodisciplinary. Consequently, the best minds focus on publishing in these journals, being cited abroad etc. The interdisciplinary centers are often frowned upon by the line departments. With rewards going to monodisciplinary output, there are fewer incentives to be an innovator in interdisciplinary ventures. As a result cross-cutting issues, (like globalisation itself, one of the premier challenges of our time), have been slow in penetrating the halls of academe. Consequently, universities – (and to be fair this criticism does not only apply to Canada alone) – tend to retreat into their ivory towers and do not keep up with rapid social and technological change. Their value added to society therefore diminishes considerably and leading edge innovation tales place elsewhere.

With its enormous talent pool, its excellent institutions of higher learning and its multicultural richness, Canada should be both a leading global *think* and *action* tank. If it is not it is because we have not been able, so far, to come up with a true innovation strategy – one that not only shortens the passage from invention to innovation but also attracts global talent to come and work in our country as opposed to migrating to the United States, the recipient country of most of the top researchers in the world as Lorne Marsden's has pointed out. One of the most important aspects of our innovation strategies must be to include serious '*attractors'* to entice global inventors and entrepreneurs to use Canada as their platform. To do so we must reduce to a minimum the present '*repellents'* which trap us into being a perpetual idea-exporting country.

The major challenge of a New Liberalism Innovation Strategy must be not just to cook the marshmallows, but to get them out of the fire for the benefit and advantage of all Canadians.

Kimon Valaskakis Ph.D : Biographical Notes.

Kimon Valaskakis was Canada's Ambassador to the OECD from 1995 to 1999. Before that he was professeur titulaire de sciences économiques at the University of Montréal and President of the Gamma Institute an international forecasting and planning think-tank based in Montreal. He was also chairman of Isogroup Consultants a global strategy firm with offices in Montreal, Paris, London and Sofia. He is the author of 8 books and over 100 papers. He was described by the British Periodical The Economist as "one of Canada's most perceptive thinkers."

Dr. Valaskakis is currently the president of the Club of Athens. This new international initiative involves a number of world leaders interested in exploring improvements to the present Westphalian system of world governance. Its name is derived from Fifth Century Athenian democracy as described in Plato's Republic and it conveys the message that what is needed in today's world is to design the Global City-State or the Global Athens so to speak. Dr. Valaskakis divides his time between Europe and North America in the promotion of this venture.