

EDITORIAL

Commercialization of Academia Research

With the shrinking of government research funds during the 1990's, many Canadian researchers who did not leave the scene survived, relying on industry support and commercialization of their ideas. This was done in a variety of fashions such as contract research, selling of intellectual properties and establishment of spin-off companies. Expectedly, independent and curiosity-driven research suffered.

There is no controversy over the benefits of commercialization of ideas and involvement of scientists in the development of useful products. For example, it is not difficult to imagine where our quality of life would be in the absence of commercially available life-saving drugs. However, the lack of a reasonable balance between independent funding and the involvement of academic institutions in commercialization of science has worried researchers and academic leaders. In his address at the Royal Society of Canada on November 20 1999, Nobel laureate John Polanyi of University of Toronto suggested that Canada might be in danger of losing its independent scientific voice if the present trend in commercialization of academic research continues.

It has been stated that the lack of sufficient government support is gradually turning university research from an independent, focused and curiosity-driven activity to a commercially motivated effort with short-term benefits in mind. One may suggest that independence from government funding may be expected in a society with a free enterprise system. However, other, even more entrepreneurial societies, disagree. Due to a several fold greater per capita investment of government on research and development in other industrial countries, the industry share of research cost is smaller. For example, researchers at US universities rely on half as much direct industry support as their Canadian counterparts. Direct industry support to universities is more than 12 percent in Canada as compared with 6 percent in the United States, 3 percent in France and 2 percent in Japan. Indeed, these countries have not deviated from the principles of free enterprise. Quite contrary, they believe spending taxpayer's money on independent research is a very smart and profitable investment. These countries are aware of the healthy return from their investment on independent research. They understand that a combination of independent and product-

driven research is needed to succeed. Academic research and discovery must be free of the market pressure, while entrepreneurs must focus on the market needs. Fundamental discoveries have led to today's high quality of life, independent of commercialization and short-term benefits.

In Canada, the problem is not an excessive flow of the industrial dollar into the universities, but the lack of sufficient public or no-strings-attached funding. This has resulted in a greater percent of the total academic research budget coming from commercialization. Indeed, per capita expenditure of the pharmaceutical industry in US is still several fold greater than that in Canada.

Independent research has turned our academic institutions into powerful scientific centres. Over-commercialization of these centres will result in the loss of "all the things industry turns to universities for – breadth of knowledge, far time horizon and independent voice", Polanyi suggests.

For their involvement in the development phase, pharmaceutical scientists are at a greater risk of losing their independence than those in other biomedical fields. Indeed, in response to request for financial support from granting agencies, many of our colleagues have come across the statement that "pharmaceutical research and development should be supported by drug companies". One wonders if the great discoveries of Louis Pasteur or Alexander Fleming would have been possible in the absence of environments conducive to independent thinking. What would have happened to the late 1998 outstanding discovery of B.J. Marshall, that peptic ulcer was an infectious disease if he had had to wait for industry support?

After so many years of budget cuts, the recent increase in the Canadian federal government biomedical budget is good news. The level of funding, however, is still well below what is needed for an industrially advanced country such as Canada.

For the benefit of the public, useful ideas must be commercialized. In the meantime, it only makes sense to keep the source of ideas alive and well, otherwise there will be nothing to commercialize.

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