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University-Business Ties: Dangers and Opportunities

Ever since I began teaching university in 1962, ways of creating tighter links between basic university research and industry have been intensely discussed. People in basic research are motivated by a curiosity about nature: a desire to uncover fundamental principles that operate in the Universe. The 'real world' of finance is usually alien to a university professor, while the more leisurely approach and scientific jargon of academics is perplexing to most business people. So, for decades we've tinkered with government and university structures (without much success) to try to create incentives for the two worlds to communicate.

In the past decade, however, things have changed enormously. In Canada, we have belatedly recognized our status as importers of a technology paid for by the export of natural resources. In an attempt to get aboard the hi-tech revolution, governments are searching for "industrial strategies," one of which is to encourage more university-business ties. At the same time, the esoteric discoveries of molecular genetics have provided powerful tools for manipulating DNA and creating potentially useful organisms such as pollution-destroying bacteria, plants that fix nitrogen from the air, faster-growing cattle, etc. This conjunction between basic research and application has been seized upon by industry, government and academics as a golden opportunity, which it is. But in Canada, little attention has been paid to the long-term implications of close ties between business and academia. I believe a university is a very special place - and for that reason, we ought to think hard about what's happening

A university is symbolically important. It signals a society's commitment to knowledge as the foundation of civilization, and its contribution to that body of knowledge. But dreamers, thinkers, scholars exploring ideas at the very edge of human thought are often perceived as threats to the established order. It's no accident that many revolutions and major social movements begin in universities. In order to explore new ideas freely, however, academics must be relieved of possible censure or interference for political reasons. That is what tenure is all about - a privilege bestowed on academics to free them from all possibility of outside intrusion. It is regrettable that in the minds of most of the public and academics, tenure has become simply a job guarantee.



My personal experience as a broadcaster suggests that Canadian academics are incredibly reluctant to speak out on issues for which they have expertise, but which are highly controversial. In my mind, it is difficult to justify tenure — doubly so when contrasted with the courage of academics in totalitarian regimes who speak out despite great personal risk.

In principle, tenure allows professors to think new thoughts, then share those thoughts with colleagues and students. This sharing is essential for keeping the university exciting and dynamic, and for teaching students to use their minds in the thrust and parry of debate. And in contributing new discoveries and insights, scientists add to the body of human knowledge from which all of society draws.

From their position as knowledgeable experts, and without any axe to grind for a scientific interest group, university scholars, I believe, have an obligation to speak out on social issues where their expertise is relevant. In the past, molecular biologists and microbiologists have been strongly critical of companies in the chemical and pharmaceutical industries for the deleterious consequences of their activities. But now, to exploit the promises of genetic engineering, many of those same companies are investing heavily in university research. It is not surprising that voices once critical of those companies, but now financed by them, have recently been mute.

A few years ago, we were doing a film on the Alberta tar sands. At that time, Syncrude was releasing about 50 tonnes of sulphur dioxide a day — that's a lot of acid rain — and it was projected that eventually there might be ten additional plants as big or bigger. So we decided to find an ecologist who might comment on the environmental consequences of that much sulphur dioxide. We couldn't find any willing to do so at the Universities of Alberta and Calgary — all of the ecologists who had the expertise were under contract to the petrochemical industry, and wouldn't jeopardize those grants by speaking on camera. But then, how could their tenure be justified?

The potential pitfalls of the rush to exploit new ideas in joint ventures between university and private companies are revealed in a recent experience of McGill University. A report tabled before McGill's Board of Governors in March 1984 documented the problems encountered when two microbiologists discovered a microbial compound that had the potential to bind and remove metallic residues from toxic wastes. It was an exciting find. But in the rush to exploit it, and in the absence of firm guidelines or ground rules, the professors appear to have taken shortcuts and misused funds.

Questionable conduct can be avoided if universities take a serious look at the issues. What concerns me is the tremendously disruptive impact on the academic community of the smell of money. Technicians and students at McGill were buying into the company; there were rumors, suspicion and gossip. And as the press began to sniff around, people were accused of leaking information to them - and there were reprisals. Academics are human beings like everyone else; you can find all of the passion, intrigue, ambition and jealousy of a soap opera within any university faculty. But our universities aim for an ideal, the free and open exchange of ideas, that transcends such personal foibles. Private companies with potential for profit and a demand for secrecy place a severe strain on this fragile institution. As well, there are questions about the use of public funds, public facilities, and public equipment for individual and private profit.

I believe that all these factors can be worked out. But above all else, we must ensure the preservation of openness, accessibility, and free exchange of ideas, within both the academic institution and society as a whole. Private companies within universities pose a serious challenge to that ideal. We must approach them with great care.