

comes to the well-being of Canadians, that of performance, the Fathers of Confederation almost got it right the first time. Their only mistake was to give the federal gov-

ernment a pre-emptive strike against the provinces, well beyond a betrayal of the federal throne speech commitment to improve the living standards of the country's aboriginal people.

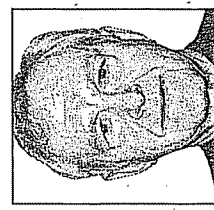
res, universities or hospitals? Chantal Hébert's national affairs column appears Monday, Wednesday and Friday. [chebert@thestar.ca](mailto:chebert@thestar.ca)

necessary political drama, as if ment to be short-sighted. It all boils now it is yo pay in dolla ing, landfill pay with yr land, water

Your repr els, know t long as they non-solutic The alterr: dustry that tities of, p they insist Such mea their profi scream tha them non-c case since i as they wor consumer. The conti (profits) vs. we can deal the further our land an to you, confronting public and i There is no demand the obscene produced (i mentally u manding c able materi especially p Having do would be n goes to land End of cris

**Roger Hollan** for the Don R fight at Metr Street Inciner struction of t in the east lak **Gerard Coffe** to Environme Coalition.

# Medical research on the upswing



Toronto area ranked as third largest centre of biotech research on the continent, says *John Dirks*

Canada has come a long way in medical research since a minister of science in the Trudeau government said: "We can import research findings from Boston if we need them."

In fact, we've come so far since then that the Greater Toronto region is now ranked by many as the third largest centre of biotech research on the continent, next only to California and Massachusetts. In a space of two square miles in downtown Toronto, there are seven hospitals, one medical school and 30 research centres. The Canadian Institutes for Health Research alone, which was founded just a few years ago, today funds close to 10,000 medical researchers across Canada via 13 separate research institutes. Last year, its budget was \$662 million.

Earlier this month, the MaRS Discovery District, led by John Evans, opened in Toronto on a site that in 1922 was Toronto General Hospital. MaRS — short for Medical and Related Sciences — is 700,000 square feet of laboratory and office space where its backers are hoping that basic scientific research will be translated into commercial success, sooner and more efficiently than in the past.

MaRS is a big bet on Toronto's and Canada's future as a gathering place for the kind of "above the shoulders" excellence we will need to compete economically, not only in the years to come but right now. In fact, hopes are so high for MaRS that a second stage of the same size is already being planned. The Ontario government invested \$51 million in MaRS, which helped bring in \$450 million more from universities, research hospi-

tals and private companies.

All across Canada, medical research is finding new status, new investors and much larger financial commitments than in years past. There are now some 60 top-notch research centres, including several with global reputations such as the Ottawa Health Research Institute, the Hospital for Sick Children and the Samuel Lunenfeld Research Institute at Mount Sinai Hospital. The rapidly-growing Alberta Heritage Foundation is transforming Edmonton and Calgary into truly world-calibre centres of medical excellence.

It's clear the public sector recognizes that for Canada to share in the golden age of medical research, it has to invest some gold of its own. So we shouldn't be surprised that Canada offers one of the most generous R&D tax credit programs in the world. Taken together, tax credits from Ottawa and Queen's Park can cut the after-tax cost of a \$100 expenditure to less than \$41.

This exemplifies a healthy respect for medical research. But is it healthy enough? Are we as good as the rhetoric from high offices suggests? The telling question is: Where do we stand internationally? If ever there was an industry that is not local but global, it is the business of medical discovery.

Canadians are true international leaders in the areas of nanotechnology, the new biology of cancer and imaging techniques. And let's not forget the truly seminal work of Drs. James Till and Ernest McCullough who did the first experiments to identify a stem cell in the 1960s — the 1960s! Both Till and McCullough, who continue their work at the Ontario Cancer Institute, won a Gairdner Award in 1969 and this year were also given a Lasaker Award.

Unfortunately, while Canadians are opening their chequebooks for medical research, on a per capita basis we spend only half what Americans invest in their medical research sector.

Canada's last Nobel Prize winners in medicine were Frederick Banting and J. J. McLeod — in 1923. And, our only living Nobel Laureate in

chemistry is the celebrated John Polanyi. By comparison, since 1923 Cambridge University in Great Britain has generated 22 Nobel winners in medicine and 17 in chemistry. Discovering insulin or stem cells or cures for cancer are, by definition, elitist pursuits, and far from anything being wrong with that, we should encourage such single-minded devotion to discovery.

We shouldn't be hesitant to create and fund elite institutions in Canada. Medical scientist Dr. Sydney Brenner, a Nobel Laureate and two-time Gairdner winner, made a very astute suggestion about scientific research granting bodies. Brenner calls it the casino effect. He believes they should set aside a certain amount of money to gamble on unusual or out-of-the-box ideas for one excellent and prudent reason: They have frequently yielded the largest rewards.

The Gairdner Awards, established 46 years ago by the late Toronto businessman James A. Gairdner, are an example of this very elitism. Here is a Canadian award for international medical research that is given purely on the basis of excellence. No other considerations apply.

This week, six research scientists came to the podium in Toronto to accept their 2005 Gairdner Awards. Four Gairdners are from the U.S. this year, but two are from Canada: the renowned pioneers in memory research, Dr. Endel Tulving from the Baycrest Centre in Toronto, and Dr. Brenda Milner from McGill University in Montreal.

On another level, we should be asking ourselves whether we cultivate the scientific and mathematical culture in our school system that will enable our children to become the scientists and health professionals for the next generation.

As we celebrate scientific medical achievements this week, we can also celebrate that Canadian medical research has moved forward in terms of both breadth and quality, finally yielding a small brain gain for Canada. In spite of this, we have miles to go before we sleep.

**Dr. John Dirks** is president of The Gairdner Foundation.

Star. Nov 2 2005