

## NEWS

# Scientists say they're slip sliding away

BY CHRIS LAMBIE

Canada will face an unprecedented brain-drain by the end of this decade if we don't start stimulating our scientific research community, a panel of scientists told a Commons Committee hearing last week.

Peter Filmore, a math professor at Dalhousie, thinks the sciences just aren't sexy enough to attract Canadians.

"I guess the profile of science as a neat thing to do is low," Filmore says.

It's just not a hands-on, people profession, he says. Students see the sciences as a dry alternative to the more romanticized professions.

"Also, we need to pay more, that's all," he says.

Canada suffers from the branch plant effect, where most of our industrial research and development is done in other countries, he says. We let other nations' scientists feed off of our industrial complex.

"I teach a first year honours class and I see some of the most scientifically gifted people in the province come through that class; most of them are heading for medicine or law or one of the other professions," he says.

It's almost impossible to attract Canadian graduate students into the field. At least half the masters students in his department are from outside the country.

According to Statistics Canada,

there were 1,928 full time Master's students studying the physical sciences in Canada in 1980.

Last year, 3,210 full time students were enrolled in these same programs.

While these numbers seem to contradict the claim that Canadian students' interest in the physical sciences is on the decline, this is not the case. Out of the 3,210 full time students, 1,008 were foreigners studying in Canada on student visas.

"We have to publicize the exciting scientific careers that are available before it's too late," Filmore says.

"When Sputnik went up, there was a big push to get more people into the sciences; there was a lot of public interest; there were large numbers of Canadians entering the profession. That's all changed now," he says.

#### NUMBERS DROPPING

More than half the people in his department will be retiring by the year 2000. Scientists who were born during the post-war period are past middle-age now.

Right now, Japan has 8.4 scientists per 1,000 people, the U.S. has 6.6 and Canada only has 4.4. Those numbers are expected to drop rapidly... after scientists who were born in the baby boom retire.

"A real shortage of scientists is expected due to the demographic imbalances in the present crop of scientific researchers," he says.

By the end of this century, the Americans will be offering Canadian scientists higher salaries to entice them across the border.

"All of them are going to go to the U.S., because the U.S. is also going to experience a big shortfall at the same time," he says.

Filmore thinks there's still time to stop Canada's scientific community from going up in smoke. But it's going to take a lot of money and a boost in image.

#### IMAGE PROBLEMS

Jim Rankin, a journalism student at King's College and a graduate of Western's biology program, says "sciences definitely have an image problem."

In his first year biology class of 300 people, the majority of students were aiming at medicine as a career. He says the entire class had been weaned on television shows like *St. Elsewhere* that totally idealize medicine.

**"It takes a super-dedicated person"**

Unless you're a top student, says Rankin, you never really get near the professors and you're never going to get into medicine. Only a minute percentage of people were encouraged to persevere with graduate studies.

Also, he says, "it takes a super-dedicated person to enter the laboratory and leave the world behind."

There are no obvious daily rewards in lab work like there are in occupations such as medicine, law

or journalism. "You don't always get to see results; some people have to wait a life-time for recognition and sometimes it never comes," he says.

"Some people think a master's degree in sciences would be too hard, but it really isn't," says Amber (not her real name), a Dal graduate student in biochemistry.

She says the image problem develops early-on with all the social "geek stigmas" associated with science. Children should be informed of their options at a younger level, she says, before they form all sorts of negative stereotypes about certain professions.

The adviser who encourages students to explore graduate work is the exception, not the rule, she says, "I was lucky, that's all."

"People get tunnel vision about being doctors or lawyers, and they just can't see beyond that desire."

"The courses are so hard in third year undergraduate sciences that a lot of people develop a dislike for pure science," she says.

#### FIGHTING FOR FUNDING

Scientific researchers have to be entrepreneurs who can excel in their own fields in order to get any recognition and financial assistance. "You have to kick some serious butt and get major scientific findings before you see any serious funding," she says.

Amber expects she will have to get her medical degree before anyone will take her work seriously. "It's the only way I can research effectively," she says.

It's interesting, she points out, that lots of people have been asking her all about molecular genetics since Allan Legere was convicted for murder on the evidence of genetic fingerprinting.

"I don't think there's any lack of curiosity regarding science, I think

people are just intimidated," she says.

When fields like genetics or computer science come into vogue, "they can spark some serious interest in people who may not have thought seriously about a career in science."

Medicine is often the only career many science students can imagine themselves pursuing.

"I was scared to death when I thought I wasn't going to get into med school," says Barb (not her real name either), a medical student at Dal.

Lab technicians only earn \$14,000 a year, and Barb had \$20,000 in student loan debt. "There really wasn't much of an option other than medical school, unless you include drinking myself to death," she says.

In the research sciences you "literally have to fight tooth and nail for your funding," she says.

"In Canada, we have one of the world's strongest economies, but our scientific funding is laughable."

The pervasive attitude is that the Americans will always be willing to share their research findings. But a lot of important discoveries have been made in Canada, she says, and that tradition shouldn't be allowed to die from financial starvation.

The professors at Dal are getting less and less time for research, and that often dulls the passion they pass on to their students, she says. "It's a sin that scientists have to be frugal with their time and equipment just because we aren't willing to make the investment."

The worst part about research, she says, "is when a respected scientist has to grovel to a stranger who knows nothing about their research, just because they need money to continue."

## Reflection on images

BY MIRIAM KORN

Not only mirrors reflect.

Next week the Dalhousie Women's Group will be sponsoring a Week of Reflection, in remembrance of the fourteen women killed on December 6, 1989 at the University of Montreal's School of Engineering.

"You're all a bunch of feminists!" shouted LePine just before opening fire and killing six of the women.

We are a bunch of feminists. We will be asking you to reflect. This means to think, to consider deeply, and to remind oneself of past events.

Feminism does not seem to have a very good image lately. Many people feel it is no longer relevant. Our sisters of the sixties fought and won the battle. The revolution is over. Women are considered equal. We live in a liberated society.

It is a society in which 1 out of 4 females are sexually assaulted, 80 per cent before the age of 21. It is a society where 1 out of 12 male university students admit they have committed or attempted rape, usually more than once. It is a society where 1 out of 10 women in Canada are beaten by their spouses.

It is a society in which a seat on the United States Supreme Court

is held by a man accused of sexually harassing a staff member and who stands for abolishing abortion rights. It is a society where women are sexually harassed at work, in the classroom, and on the street. It is a society where women are afraid to walk alone at night.

It is a society where women are physically and sexually abused by their husbands, boyfriends, and fathers. It is a society where women are raped by strangers, and acquaintances. It is a society which has allowed the rape shield law to be repealed.

The revolution is certainly rolling, but it is by no means over. There are still many battles to left to be fought, and we must keep fighting to assure that battles already won are not later lost.

This may conjure up images of militant radical man-haters; however feminism is actually about equality between women and men, among all races and across all classes... it is about peace.

Next week you may notice posters of a fist transforming into a flow of drops and leaves, falling into the reflection of many women's faces in a pool of water. Don't just look at them. Listen to what we have to say. Listen to how you feel. And think. Reflect.

## Studying south of the border

BY MARIE MACPHERSON

Ever wonder what living in Boston would be like? Or being able to go skiing in Vermont whenever you feel like it? If you have, and would like to pursue your studies at the same time, then the Nova Scotia/New England Student Exchange Program is your answer.

Established in 1988, the program is an initiative of the New England Governors and the Maritime Premiers Conference. Participants in the program must be currently studying at a Nova Scotia university (preferably in third or fourth year of studies) and with above-average grades.

This year, applicants had their choice of 18 New England institutions in Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. Five Nova

Scotia students are participating this year, including Dalhousians Jennifer Penman and Nicole Schmidt, both attending Northeastern University in Boston. Lynette Ferguson, also from Dal, studying at Quinnipiac College in Hamden, Connecticut. The two other participants are students from Mount Saint Vincent and Acadia. Elizabeth Ann MacDonald, policy advisor for the Council on Higher Education, says "the program offers the opportunity to live in another country, and in a somewhat familiar physical setting."

She stresses Canadian students have been welcomed by their American exchange schools, and the U.S. universities "sense the value of Canadian study at their institutions."

While studying in New England, students remain Dalhousie students, still paying Dal tuition and

academic fees. This beats the overwhelming U.S. tuition costs, often exceeding \$10,000. Exchange students are responsible, however, for transportation, living, and required miscellaneous expenses.

MacDonald says the program has had a tough time recruiting students below the border to experience our Canadian lifestyle. Currently only two U.S. students are in Nova Scotia: one at Saint Mary's and Thomas Ross, a native from Massachusetts, is studying here at Dal.

MacDonald says while the exchange program is still relatively new, this year's participants will "serve as catalysts on their campuses to build enthusiasm."

Interested students are encouraged to contact Dalhousie's representative, Gudrun Curri (at the Registrar's Office), for information and application.