

## Reactor in Life Sciences worries Psych dept

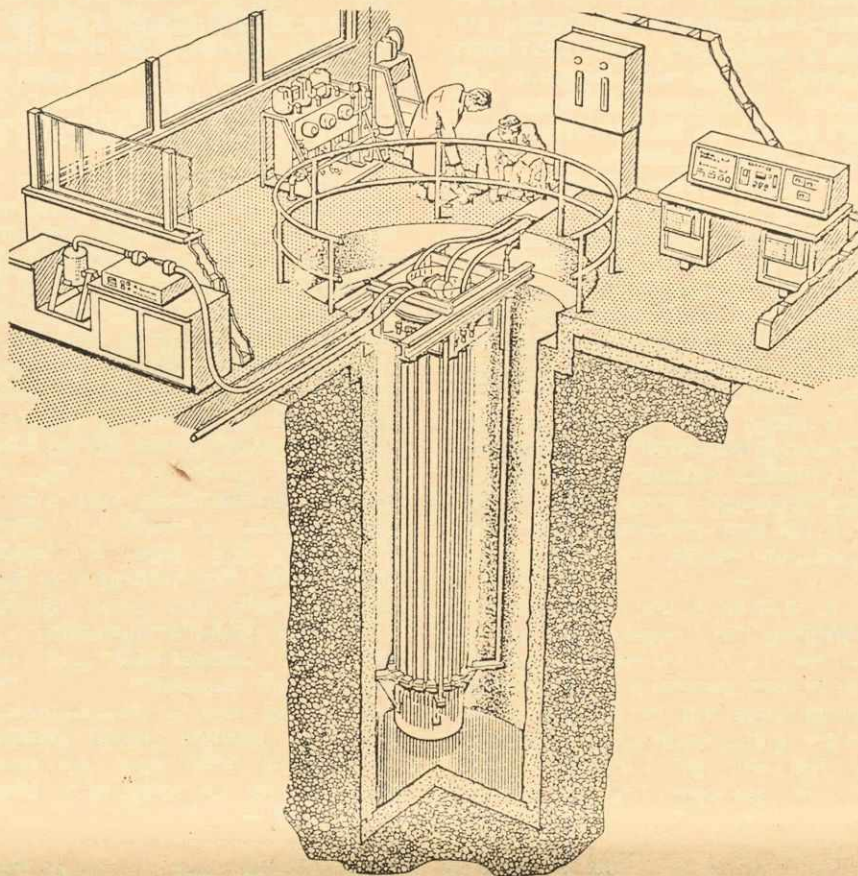
by Mike Greenfield

Last June it was announced that Dalhousie was to be the recipient of a nuclear reactor designed for research purposes. In the fall the students and professors returned to campus, most unaware of this gift from the Federal Government (or more specifically the Atomic Energy Control Board).

One day, just recently, someone from the Psychology Department walked into Audio Visual in the basement of Life Sciences to talk about improving the quality of the reception and the possible steps to be taken to correct the often poor reception. He was told that it did not pay to bother since A/V was soon to move out of the basement to make room for the nuclear reactor. Word quickly spread among the Psychology Department that they were soon to have the reactor as a neighbor. While the people in Trace Analysis consider with glee the prospect of this experimental tool, the sudden "discovery" of its planned presence is the cause of a good deal of edginess and worry among the people in Psychology.

The following letter has been written by Associate Professor of Psychology Dr. B.R. Moore. However it undoubtedly expresses the views of many other people working in that department:

A number of disturbing questions about reactor safety have been raised by such journals as **Science** and **Nature**. The questions are not trivial. The journals' descriptions of possible accidents are very grim, and there seem to be countless ways for things to go wrong. A **Science** article three years ago referred to 139 "unsettled" safety questions, of which 44 were described as "urgent." These questions concerned power reactors, which are larger and more complex than the



**Slowpoke-2 will be sunk into the bedrock below the Audio/Visual in the Life Sciences Centre.**

unit obtained by Dalhousie. It is, of course, possible that while the large reactors have 139 safety problems, ours may have none at all. Possible, but who would bet on it?

The evidence on the safety (or otherwise) of our reactor is still far from complete. Its prototype went into service only four years ago. One would like to know what sorts of problems will emerge in the long run. But, unfortunately, there is no way to tell.

We are told that this is only a

small reactor. It is indeed small by industrial standards, but it is no desk model: the reactor container is 17 feet high. It is to be immersed in a 20-foot pool (to be built by Dalhousie) which will provide cooling and extra shielding from neutrons and gamma rays. The extra shielding is most welcome, for there is one way in which our miniature is more formidable than the giants. The large CANDU reactors use fuel which is less than 1% <sup>235</sup>U; the American equivalents use enriched uranium, 4% <sup>235</sup>U. But the reactor scheduled for Dalhousie uses 93% <sup>235</sup>U, which is weapons-grade fuel. It is actually 140 times "hotter" than what goes into the CANDU. One hopes that the reactor's pool proves more water tight than others in the Life-Science complex.

There is something else in the **Science** and **Nature** articles which is extremely disturbing. They describe many examples of very basic incompetence in the nuclear industry. Some of these are almost incredible—and very funny, if one can keep one's sense of humour. There seems also to be an almost universal tendency to hush things up. Most "incidents" are not reported, and most misgivings are not aired, for fear of alarming the public.

Altogether, we have a situation in which manufacturers and government agencies tell us that there is nothing, absolutely **nothing** to worry about, while **Science** and **Nature** tell us that we damned well ought to worry.

It seems obvious that we should obtain as much information as possible, from responsible critics as well as government sources, before

blasting 20 feet into bedrock.

**B.R. Moore**  
Associate Professor

The name of the reactor is Slowpoke-2. The primary user will be Trace Analysis which will use free neutrons emitted by the radioactive core to bombard substances. Neutron bombardment will cause Trace elements to emit radioactivity enabling the detection of precise quantities of these Trace elements. Trace elements are generally metals that are easily tagable by their specific types of radiation and characteristic half-lives. For example, this process can be used to detect the amount of mercury present in fish. However, the use of the reactor is not exclusively for Trace Analysis. Its services will be made available to varied projects, the Bedford Institute has expressed keen interest in using Slowpoke-2.

Actually the reactor is not being given to Dalhousie. The Federal Government is granting Dal the money, approximately \$200,000, and Dalhousie is purchasing it from the Atomic Energy of Canada Limited. The AECL will also have its technicians install it. The reason as to why Dal was given this "gift" obviously have to do with the need for research but there is also the political side of it. Solepokes are being installed in Alberta, Ontario, Quebec, and now to show fairness the Maritimes will receive one.

However, the installation of the other Slowpokes in more heavily populated areas (Toronto, Montreal) has not raised any eyebrows. Why is the installation at Dalhousie suddenly coming under fire?

There seems to be two primary reasons. Firstly, there has been a growing awareness among Canadians that nuclear energy is not all that we have been led to believe and in many cases the AECL has not been acting in the public interest (e.g. Point Lepreau). Secondly, the chagrin of the Psychology professors upon learning that there was a nuclear reactor going in next door and they had not been made aware of it. People are becoming a little tired of being left in the dark concerning nuclear reactors when it is the people that will suffer in case of a disaster.

The question raised is why not put the reactor outside of the city away from areas of dense population?

Dr. Chattopadhyay of Trace Analysis has worked at University of Toronto the prototype Slowpoke which has been in operation for 4 years. He is quite convinced that Slowpoke is a harmless reactor. He explained that Slowpoke is quite dissimilar to the thousands of times larger power reactors. Slowpoke is also much smaller than the research reactors operating on campus' all across the United States. Slowpoke operates at very low temperature and power output. The major safety device will shut down the reactor should the core heat

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## Awards office distributing loans

by Mary Pat MacKenzie

Students who have not yet received their student loans should begin to worry but not panic. Loans from Ontario, New Brunswick, Quebec and Nova Scotia are now at the awards office and it is quite possible that if you're expecting yours it is there now. There is a large stack of loans which have arrived by courier from the various provinces and the awards office is distributing them to students.

Ontario students may find that their loans will be much later but they should be here by Christmas. For some reason the Province of Ontario is much slower processing student loans than any other province. Students who have not heard anything from Ontario should check with the Dal awards office because it is quite possible that Ontario is missing pertinent information or documents to process the loans. The awards office can telephone the missing information

to the Ontario loans office so the processing will be speeded up.

Loan appeals and summer savings reviews are now being processed at the Nova Scotia student aid office and they expect to get them out by Christmas. Again these loans will be forwarded by courier to the awards office and must be picked up there.

University regulations require that fees be paid by the end of November or students will be deregistered. Any student waiting for a government loan to pay his/her fees can go to the awards office for assistance in arranging late payment with the registrar. At press time no procedure had been established to handle these cases but students should not worry. They will not be deregistered or even charged a late registration fee if the reason for not paying is because loans are late.