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monitoring academic activity of the student.

It is argued, from the perspective of academic staff, that exams are a valuable tool in the learning process for they give the pupil a clear indication of areas of weakness. From the student's perspective, however, exams serve only to indicate in what areas he/she did not do enough.

Cramming, or learning by rote, is superficial learning. Understanding, as opposed to mere memorization, is a product of analysis, guidance and time. It is not something that can be bought, sold or bargained for.

The use of grades as a mechanism for assessing progress has affected the value of the term paper in the educational system. Where once the professor not only graded the final work but provided a guiding force through the writing of the paper, today he or she offers, at best, only a brief comment accompanying the mark on the last page.

The result of the change in students' attitudes and university grading methods has been the growth of plagiarism. Buying, selling or trading term papers is much more acceptable and widespread an activity that it has ever been.

There are basically two ways in which students acquire term papers. The first is the institutional method: so-called "term paper mills".

Today's research companies, as they prefer to be known, can be found in every major North American city. The majority of their work is undergraduate, especially 1st and 2nd year, says a Toronto-based firm) term papers. They provide either custom-written or catalogued work, and guarantee at least passing grade.

Custom-written work costs twice as much as catalogued papers. A Los Angeles firm offers custom-written papers for \$6.75 a page with seven page minimum and catalogued work for only \$50 a page. In contrast, a Toronto company offered a custom-written, seven page paper for \$10. The reporter was assured, however, that this was a special deal" and that normal rates are double the price quoted. Both companies assure the purchaser that custom-written work will not be resold.

The cheaper, catalogued work is a more attractive alternative to undergraduates. The *Daily* wrote to a Los Angeles company asking for their catalogue and within a week a copy arrived. The catalogue lists "10,000 topics". Subjects range from existentialism to exchange theory, and everything in between. The Toronto firm, and one that operated in Montreal last year have equally comprehensive catalogues. Many of the catalogues refer their topics to the local university's courses.

The term paper mills have managed to protect themselves from legal prosecution by calling themselves "research companies". They require all their clients to sign a form stating that material purchased will be used only for research and reference purposes. Some companies further protect their interests by using paper with a visible water mark, forcing the purchaser to retype the work.

There are also more informal ways for students to acquire term papers: trading, borrowing, or stealing them.

According to virtually everyone who has studied plagiarism, most plagiarism occurs this way. The majority of students have had some contact with this dimension, either in the form of using one's older sibling's paper or having a submitted work stolen from a hallway where an unthinking professor had left it for distribution.

Such an incident occurred recently at McGill. A professor left graded papers outside his office and within minutes they were stolen.

It is a pervasive problem and students and professors are often unwilling to recognize that they have been victims of plagiarism. "People don't want to confront the issue," says McGill Professor G. Piggott. Nobody is willing to determine how large the problem is, he says, so plagiarism is just not discussed.



## Nuclear energy: boon or bane?

by Susanne Small  
Loyola News

In light of the recent rejection of the Rasmussen report on reactor safety by the U.S. Nuclear Regulatory Commission, a report it had accepted for five years, Canadians must examine the implications of the reversal for Canada. Lacking a report on disaster probability of our own, our nuclear industry has relied heavily on the now-disowned study to quiet the debate.

Just where does that leave us not?

Nuclear energy is Canada's sacred cow. As its one true example of high technology, Canada has allotted multi-billion dollar investments for the development and production of CANDU reactors.

Nuclear power has been pursued because it promised to be a cheap and reliable source of energy, and foreign sales of CANDUs were expected to yield a profit.

Now, after 30 years, the industry has failed miserably in meeting the expectations and the most alarming predictions of nuclear risks have been proven all too true.

"The Canadian government emphasizes the initial cost, not the life-cycle cost, of nuclear power plants," said Dr. Fred Knelman, Concordia University professor and author of *Nuclear Energy: The Unforgiving Technology*.

This pricing system led easily to the conclusion that nuclear power was a cheap energy source, he said, since the initial cost did not reflect the cost of repairing damage to the plant occurring from radioactive aging.

"All the pressure tubing at the Pickering plant will have to be replaced by 1980. This will cost \$500 million, not including the cost of the shutdown. This is almost as much as the initial cost of the complex."

The cost of what was promised to be a cheap energy source has become so prohibitive that the *Financial Post* estimated last year that Canada could not afford more than one new reactor per year.

The existing price comparison between nuclear and other energy sources also ignores the cost of disposing of nuclear wastes and of the plants themselves once their 30-year life cycle ends.

### More than a matter of cost

The nuclear debate now becomes more than a matter of cost analysis. Nuclear wastes from the plants have a potential for destruction which defies any measure.

In Dec., 1957, in central Russia, the nuclear waste depot of a commercial plant exploded. Although much of the accident remains a mystery, it is known

that hundreds, perhaps thousands, of people died because they lived in the region over which the winds blew the radioactive cloud. The earth lay barren for years, and for as long as 10 years after, it was thought necessary to advise pregnant women in the area to abort because of the lingering effects of radiation.

Billions of dollars have been granted to the Canadian nuclear industry for the permanent, safe disposal of wastes. "However, numerous scholarly studies have shown there is no technically and economically feasible means of disposing of nuclear wastes," Knelman says.

"Canada is plugging for burying the wastes in stable geologic area with no seismic activity. But the experts say this is not certain at all. Many factors could cause the material to corrode and the wastes could find their way into the environment."

Germany, Sweden and the state of California have responded prudently to the problem of waste disposal by barring the construction of plants until there is a safe means of disposal.

In 1976, the nuclear power plant in Oyster Creek, New Jersey ended its life cycle. After 30 years in operation, the entire plant structure had become dangerously radioactive.

A \$100,000 fund was raised so that the plant could be entombed in a mass of concrete so thick that the amount of radioactivity which leaked out would be considered relatively safe. The cost of the burial coupled with the cost of maintaining the concrete intact is not noted in the original price comparison.

### Profits not apparent

Profits the federal government hoped to make on sales of CANDUs have not yet materialized.

In his article "Canadian Nuclear Policies and Politics," Knelman writes: The Canadian taxpayer stands to lose \$130 million on the Argentina sale because of loopholes and errors in the contracts."

The sale to South Korea also incurred inflated agents' fees and fared little better.

The construction costs of nuclear power plants, having risen twice as fast as for conventional power plants, and the increased price of uranium to fuel the plants from \$7 to \$44 per pound, has dampened the foreign market. The predicted profits may never materialize.

Our domestic demand is also non-existent today. Even apart from the monetary and safety costs and the problems of waste disposal, nuclear energy in Canada is difficult to justify.

According to the Canadian

Nuclear Association, the CANDU is a vital national asset because the technology, the fuel and all the equipment is, or can be, produced in Canada.

However, since only eight per cent of Canada's energy needs rely on an electrical source, nuclear power plants would only be necessary to supply for these needs.

Knelman says these needs are more than efficiently provided for, in terms of cost and safety, by hydro-electricity.

Underscoring the evidence that nuclear energy costs and dangers are not warranted, the federal government continues to subsidize the industry at an incalculable risk to present and future Canadians.

### Threat to health

Risks to uranium miners are among the drawbacks to nuclear power. The miners inhale radioactive dust and become highly susceptible to lung cancer.

"Recent scientific evidence from a broad variety of sources have concluded that the estimates of risks to miners should be increased tenfold," Knelman said.

Among nuclear power plant workers, the health threat is also unacceptably high. The one thorough study involved thousands of nuclear plant workers in Hanford, Washington, and showed an unquestionable excess of four different types of cancer.

The population-at-large is threatened by excessive radioactive particles leaking into the environment. Tailings, residue from uranium mills which form water-soluble compounds and enter the eco-system, present a long-term hazard of four to five hundred thousand years and are just part of the threat.

"For a 100 Megawatt plant over 30 years, just counting the tailings of uranium mined for that plant, the associated hazard will, in the long future, kill 12,000 people," Knelman said. "But that's a conservative estimate."

These threats and the potential for sabotage and blackmail if uranium or plutonium fall into the "wrong hands" pose critical questions.

Thirty years after the birth of the industry in Canada, nuclear energy is not cheap or safe. It involves large, uncertain risks, and, if pursued, it discounts the rights of future generations to an inhabitable environment.

"In the final analysis the risk far outweighs the benefits," Knelman said. "We have far better, safer choices we must pursue."