entive observer of the international nation could have foreseen in 1972 — or g before, according to other specialists hat India had in no way renounced the uclear option".

In the field of nuclear technology, re are many other countries besides dia that benefit from Canadian co-eration on nuclear reactors or in supply-fissionable materials. Furthermore, ne of these countries, such as Argentina, kistan, Spain and Japan, with regard to supplying of uranium, have never ified the Treaty on the Non-Proliferation of Nuclear Weapons of 1968. The e of South Korea is different, since it ently decided to ratify the treaty, hough this did not prevent that country m stating not long ago that it should t logically be forbidden to consider clear armament if the United States r decided to deprive it of the American mic "umbrella".

Consequently it is not unreasonable think that some countries receiving nadian aid might eventually follow dia's example and explode their own clear devices, especially since some of ese countries are already highly suspect the simple reason that they have not t ratified the 1968 non-proliferation eaty.

eactors and bombs

this connection, it is very important to aware that civilian industry can be an portant stage in the acquisition of mili-ry nuclear technology. The manufacture a nuclear bomb presupposes that a untry has fissionable materials at its sposal (uranium 235 and plutonium 239 ing the most frequently used). To ob-in uranium 235, its isotopic content in tural uranium must be enriched. This ocess is in itself very complex, as well as ry costly. Plutonium 239 can be ob-ined only from nuclear reactions occur-ng in reactors. This operation is also very stly — one kilogram of plutonium 239 ntaining a small amount of isotope 240 per cent) is valued at $60,000 — but it available to most countries that have uclear reactors fuelled by uranium 238. If we take into account that it is ssible to obtain about 130 kilograms of utonium from a nuclear-power station aving an electrical capacity of 500 mega-atts (with equal power and depending on e type of reactor used, it would be pos-ble to increase the quantity of plutonium btained), and that only five to eight ilograms of plutonium 239 are required to roduce a so-called "atomic" bomb of the iroshima type, we realize that civilian industry makes possible the production of an incalculable number of bombs if a country wants to take this course. As an example, let us point out that the total electrical capacity generated by the CANDU reactors in Canada as of 1983 will be about 15,000 megawatts; the Bruce power-station in Ontario will itself generate 6,000 megawatts when it is completed in 1982. A simple calculation shows that, if Canada wanted to process the irradiated materials in the reactors with the appropriate chemicals, it could isolate enough plutonium to make hundreds of bombs of about 20 kilotons each!

For that matter — and to take only one example — how many bombs could Argentina produce if it decided to use for military purposes the 600-megawatt CANDU reactor that will be operational in Rio Tercero in 1981? On the basis of the above figures, that country could produce at least 12 atomic bombs in 1982, could have accumulated a good 60 by 1987 and over 100 by the beginning of the 1990s. However, Argentina does not yet have a chemical-processing plant with which to enrich the isotopic content of plutonium 239 and we are justified in wondering whether it is realistic to put the question in these terms. To be able to answer, we must study somewhat more closely the non-proliferation treaty and the conditions imposed by Canada in its nuclear-assistance program.

Non-proliferation treaty

The chief obligations accepted by those countries that have subscribed to the non-proliferation treaty of 1968 can easily be summarized. The nuclear states undertook not to do what they never intended to do anyway — that is, to supply atomic weapons to anyone, directly or indirectly, or in any way. The non-nuclear states undertook not to acquire any, or even to seek to acquire them, directly or indirectly or in any way. Lastly, the non-nuclear states party to the treaty undertook to conclude an agreement with the IAEA (International Atomic Energy Agency) in Vienna that the entire development of their nuclear programs would be subject to Agency safeguards.

No atomic weapons directly or indirectly or in any way

Canada has always seen this treaty as the best instrument of control yet available — in the absence of a stricter and more comprehensive agreement, or of general disarmament — for preventing the proliferation of nuclear weapons. Let us make clear, however — and Canada readily acknowledges it —, that this treaty is valid only to the extent that the voluntary assent of the subscribing states can be relied