Checks on the spread

Gordon Thompson

Nuclear Proliferation Today. By Leonard S. Spector. *Vintage, New York: 1985. Pp.478. Pbk \$5.95.*

Non-proliferation: The Why and the Wherefore. Edited by Jozef Goldblat. *Stockholm International Peace Research Institute/Taylor & Francis: 1985. Pp.343. £11, \$19.*

Safeguarding the Atom: A Critical Appraisal. By David Fischer and Paul Szasz. Edited by Jozef Goldblat. *Stockholm International Peace Research Institute/Taylor & Francis: 1985. Pp.243. £16, \$28.*

Most people would agree that the world will be safer if membership of the nuclear weapons club does not grow. Likewise, most seem to think that we would all be better off if the present members were to stop their frenzied arms race.

Thus we are faced with a problem of nuclear proliferation in two basic dimensions — "horizontal", which refers to the acquisition of nuclear weapons by additional countries, and "vertical", which refers to increases in the sizes or capabilities of existing nuclear arsenals. (We owe this terminology to Indian diplomats who, in the 1960s, coined the term "nuclear proliferation" specifically to link the two dimensions.) The three books reviewed here, if taken together, provide an up-to-date and comprehensive picture of the state of nuclear proliferation, although only in its strictly horizontal dimension.

With Leonard Spector's book, the Carnegie Endowment for International Peace (based in Washington, DC) has launched a series of annual reports on the spread of nuclear weapons. *Nuclear Proliferation Today* provides an account of the proliferative activities of eight "problem" countries — Argentina, Brazil, India, Iraq, Israel, Libya, Pakistan and South Africa — together with discussions of the role of China, and of the status of controls and safeguards on nuclear technology. The eight nations, using a variety of approaches to getting the necessary materials and technology, either have nuclear weapons already or are seeking to acquire them. India publicly acknowledged its nuclear test in 1974, although labelling it a peaceful explosion. Israel, which may or may not have conducted a test, is generally believed to have a few tens of nuclear weapons, perhaps kept in a disassembled form in times of peace. The other six nations are in more ambiguous positions or are less advanced in their quest for a Bomb.

Two of the eight countries (Iraq and Libya) have signed the Non-Proliferation Treaty (NPT), although they apparently do not feel bound by its provisions. The others have refused to sign, generally

arguing that the NPT is discriminatory and seeks to perpetuate the dominance of the nuclear powers.

Nations have had a variety of motives for their decisions to sign or to stand aloof from the NPT. For representative groups of countries, these motives are explored in *Non-proliferation: The Why and the Wherefore*, a collection of essays describing the domestic, international and technical factors which brought each country to its decision. The group of NPT non-signatories studied includes two nuclear-weapon states (China and France), all the non-NPT "problem" countries mentioned above, and Spain. Representing the NPT signatories is a group of six countries ranging from Canada (which has never sought an independent nuclear arsenal) to Taiwan (where plans to build a reprocessing plant were abandoned following heavy pressure from the United States in 1976).

For the book, the Stockholm International Peace Research Institute (SIPRI) has assembled a stable of well-qualified authors (many of them citizens of the countries they discuss) and, to assist in framing the conclusions presented in the overview chapter, the Institute held a workshop in October 1984, attended by a separate group of international experts. Also, SIPRI has drawn on its own resources to prepare several detailed appendices, including one which provides a thorough account of the nuclear infrastructure in each country considered (although the data for China and France are badly out of date).

Comparatively speaking, the conclusions of both SIPRI's study and of Spector's more narrowly focused book are mildly encouraging; that is, the present pace of horizontal proliferation is slow compared with the pace of vertical proliferation. In part, this is because of the emergence of a broad international consen-

sus that the nuclear club should not grow. From this has flowed both moral pressure and the ability to impose an international non-proliferation regime which has complicated the task of any nation seeking nuclear capability. Moreover, the financial costs and technical problems of acquiring an arsenal of nuclear weapons and appropriate delivery systems have proved formidable for developing nations. Finally, growth of the nuclear power industry has been much slower than anticipated; in consequence, possession of a complete nuclear fuel cycle (with the concomitant possibility of diverting fissile materials from reprocessing or uranium enrichment plants) cannot be economically justified for any country, particularly a developing nation.

Central to the non-proliferation regime is the safeguards system operated by the International Atomic Energy Agency (IAEA). This system is the main subject of another SIPRI book, *Safeguarding the Atom: A Critical Appraisal*, which has as its principal author the former IAEA official David Fischer. It also contains a section by Paul Szasz (also formerly with IAEA) and other sections and detailed appendices prepared by SIPRI.

The safeguards laid down by the IAEA are supplemented by other arrangements. First, the Treaty of Tlatelolco, which seeks to make Latin America a nuclear-free zone, is based upon IAEA regulations but also provides for special inspections by a regional agency in the event of suspicious activities. Secondly, the European Economic Community has its own internal system of EURATOM safeguards, which rather wastefully duplicates that of the IAEA. Then there is the Nuclear Suppliers' Group, often known as the London Suppliers' Club, a group of those nations which dominate the export of nuclear materials and technology and which have agreed not to supply certain items

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unless the recipient nations agree to safeguards (the list of sensitive items is similar to the so-called "Zangger Trigger List", drawn up by a committee of nuclear suppliers chaired by Claude Zangger of Switzerland). Finally, there are the arrangements made by individual countries, of which the most important is the United States Nuclear Non-Proliferation Act of 1978.

The NPT and IAEA safeguards, together with these other arrangements, constitute the non-proliferation regime. As mentioned above, the regime has been helpful in restraining horizontal proliferation: much of the nuclear industry outside the nuclear weapon states is under safeguards, as described in detail by David Fischer, while the "problem" countries generally find it difficult to obtain materials and technology for their weapons programmes. Yet, the future stability of the regime is in question.

As both SIPRI books acknowledge, without pursuing the point, the non-proliferation achievements of the past 20 years could be swept away by changing circumstances. First, the NPT remains in force only until 1995 and it is by no means clear that the treaty will be renewed or replaced by a better arrangement at that time. Many signatories are dissatisfied with the failure of the nuclear-weapon parties (the United States, the Soviet Union and Britain) to live up to their side of the bargain — that is, to end their nuclear arms race. Secondly, regional instability could precipitate a rush of nuclear competition between certain powers. Pakistan and India, for example, could fall prey to such competition, and the tension between these two nations illustrates some important linkages of proliferation. American and Soviet nuclear competition has fed the Chinese nuclear build-up. In turn, this has contributed heavily to India's flirtation with the Bomb. Pakistan has reacted, and thereby fed the fears of Israel about an Islamic Bomb. To compound these linkages, China has apparently assisted Pakistan in its quest for nuclear weapons.

An unavoidable conclusion of all this is that nuclear proliferation cannot be considered in just one dimension. Equally, it is hard to envisage any substantial improvement in the horizontal dimension without progress on control of vertical proliferation. In this respect, all three books are deficient. In particular Leonard Spector reflects the view that proliferation is something which other nations do. This attitude, common in the United States, is perhaps understandable given America's role in constantly raising the qualitative level of vertical proliferation. While SIPRI, as befits its fine record of analysing military activities of all kinds, provides a more balanced view, *Non-proliferation: The Why and the Wherefore* does not really pursue the matter of cross-dimensional linkages.

Readers seeking to understand vertical proliferation have the choice of a vast literature, but at some point would be well advised to consult William Arkin and Richard Fieldhouse's *Nuclear Battlefields: Global Links in the Arms Race* (Ballinger, 1985) which provides a succinct summary of how the nuclear confrontations of the five major powers proceed in a myriad of ways. By outlining the vast global infrastructure which supports development, testing and deployment of nuclear weapons, the book makes clear that the implications of vertical proliferation reach further than we might think.

Two examples are instructive. First, through their participation in the Eastern and Western blocs, NPT signatories can function almost as though they had never signed the treaty. Indeed, six NATO countries which are supposedly "non-nuclear" by virtue of being NPT signatories, and four Warsaw Pact countries in the same position, have numerous delivery systems certified to fire nuclear warheads. When needed, the weapons will be released to them by their nuclear-armed allies. Secondly, the intelligence, targeting, basing, training and communications infrastructure for the nuclear arsenals is spread around the globe, taking in many countries which fancy themselves "nuclear-free" and making a mockery of the idea of nuclear-free zones.

If the non-proliferation edifice begins to crumble, we will rapidly become aware of a third dimension of proliferation. This, the "latent" dimension, refers to the growing ability of many nations rapidly to field a nuclear arsenal should they so decide. The necessary materials and expertise are becoming more generally available as a result of nuclear power programmes. In particular, the wide adoption of nuclear fuel reprocessing and the development of new enrichment technologies imply the stockpiling of large quantities of fissile materials. Despite the lack of economic justification, industrial nations, including Japan and West Germany, are pressing ahead in these areas. Since appropriate nuclear weapon delivery systems are readily available, such nations could field large arsenals with surprising speed. But again, this possibility is discussed in none of the three books reviewed here.

Viewed from a wider perspective, then, nuclear proliferation is a far more serious problem than the strictly horizontal trends of recent years might suggest. It is not alarmist to say that we urgently need to tighten international controls on all forms of proliferation. The current non-proliferation regime provides a basis for doing this, but the world community needs to find the vision to adopt substantial reforms. □

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