Nuclear non-proliferation: an agenda for the 1990s
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Nuclear non-proliferation: an agenda for the 1990s

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In the autumn of 1983, the Ford Foundation of the United States awarded the University of Southampton a multi-year grant to enable a team of researchers in its Department of Politics to investigate the problems likely to be encountered in North–South security relations in the 1990s and the policy options relevant to them. One area singled out for intensive investigation was nuclear non-proliferation, for if additional states were to acquire nuclear weapons it would drastically alter the future context of global security relationships.

When research work commenced in mid-1984 the international community was starting to make preparations for the Review Conference on the Non-Proliferation Treaty (NPT) scheduled for September 1985. One component of the Southampton research effort was a national seminar on non-proliferation problems which met several times in London in the months preceding the Conference. This seminar involved a mixed group of academics, officials and industrialists and the idea of holding an international symposium in the immediate aftermath of the Review Conference on problems of nuclear non-proliferation in the 1990s arose from it. Such a symposium could be given a clear empirical focus because the NPT provides for a conference in 1995 to discuss how the treaty will be extended beyond that date.

I was fortunate enough to be able to both attend the NPT Review Conference in Geneva as part of my Ford Foundation funded research activities and discuss the proposal for a symposium with many delegates and observers. This led to some changes in the proposed structure for the meeting and to several of those present in Geneva agreeing to write papers for it. The meeting itself, called the Sarnia Symposium after the Roman name for the Channel Islands, was held in the Old Government House Hotel on the island of Guernsey from 17–20 March 1986. The chapters
Preface

which follow are derived both from papers prepared for it and ideas which arose out of it.

I owe a debt of gratitude to many people for their assistance and unstinting support in both preparing for the symposium and producing this volume. Ian Forbes, Mary Hendy, Elizabeth Schlamm, Freida Stack, Angela Wilkinson and Jane Tsabet were largely responsible for the detailed organisation of the symposium and typing and copy editing drafts of the chapters in this volume. Darryl Howlett acted as rapporteur for the symposium and prepared the final manuscript for publication. William Walker was particularly helpful in discussing possible papers in the formative period of the enterprise, as were some of the British government officials responsible for this policy area.

All the contributors gave generously of their time and expert advice in both the preparation and running of the symposium and in responding to my many suggestions for revisions to their papers prior to publication. My colleagues at Southampton, especially Roy Allison, Mark Hoffman and Caroline Thomas gave me invaluable support, whilst without the financial assistance and encouragement of the Ford Foundation and particularly its International Relations Programme Officer, Enid Schoettle, this volume could never have been created.

J.S.
Southampton, October 1986
## Abbreviations

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<tr>
<td>ABM</td>
<td>Anti-Ballistic Missile</td>
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<tr>
<td>ALCM</td>
<td>Air Launched Cruise Missiles</td>
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<td>ASAT</td>
<td>Anti-Satellite (weapon)</td>
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<td>ASW</td>
<td>Anti-Submarine Warfare</td>
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<td>BARC</td>
<td>Bhabha Atomic Research Centre</td>
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<tr>
<td>C³I</td>
<td>Command, Communication, Control and Intelligence</td>
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<tr>
<td>CAS</td>
<td>Committee on Assurances of Supply (International Atomic Energy Agency)</td>
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<tr>
<td>CEP</td>
<td>Circular Error Probable</td>
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<tr>
<td>CEPS</td>
<td>Centre for European Policy Studies (Brussels)</td>
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<tr>
<td>CIRUS</td>
<td>Indian Research Reactor</td>
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<tr>
<td>CIVEX</td>
<td>Project to develop a new type of reprocessing system</td>
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<td>CMEA</td>
<td>Council for Mutual Economic Assistance (Eastern Europe)</td>
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<tr>
<td>CORTEX</td>
<td>System developed in the United States for on-site monitoring of the yield of nuclear weapon tests</td>
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<td>CTBT</td>
<td>Comprehensive Test Ban Treaty</td>
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<td>DHRUVA</td>
<td>Indian Research Reactor</td>
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<tr>
<td>EURATOM</td>
<td>European Atomic Energy Community</td>
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<tr>
<td>FBR</td>
<td>Fast Breeder Reactor</td>
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<tr>
<td>FBS</td>
<td>Forward-based Nuclear Weapon Systems</td>
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<tr>
<td>FSS</td>
<td>Full Scope Safeguards</td>
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<tr>
<td>GCD</td>
<td>General and Complete Disarmament</td>
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<td>GW</td>
<td>Gigawatt</td>
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<tr>
<td>HEU</td>
<td>Highly Enriched Uranium</td>
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<tr>
<td>HEXAPARTITE</td>
<td>Project to develop safeguards system for gas centrifuge enrichment plants</td>
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<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
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<tr>
<td>ICBM</td>
<td>Inter-Continental Ballistic Missiles</td>
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### Abbreviations

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<th>Abbreviation</th>
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<tr>
<td>ICF</td>
<td>Inertial Confinement Fusion</td>
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<td>IISS</td>
<td>International Institute for Strategic Studies</td>
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<tr>
<td>INF</td>
<td>Intermediate Range Nuclear Forces</td>
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<td>INFCE(P)</td>
<td>International Nuclear Fuel Cycle Evaluation (Programme)</td>
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<td>INFCIRC</td>
<td>IAEA Information Circular</td>
</tr>
<tr>
<td>IPEN</td>
<td>Instituto de Pesquisas Energéticas e Nucleares</td>
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<tr>
<td>IRR</td>
<td>Israel Research Reactor</td>
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<tr>
<td>MARV</td>
<td>Manoeuvring Re-entry Vehicle</td>
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<td>MIRV</td>
<td>Multiple Independently-targetable Re-entry Vehicle</td>
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<tr>
<td>MX</td>
<td>United States Heavy Ballistic Missile</td>
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<td>NATO</td>
<td>North Atlantic Treaty Organisation</td>
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<td>NNPA</td>
<td>United States Nuclear Non-Proliferation Act (1978)</td>
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<td>NNWS</td>
<td>Non-Nuclear Weapon States</td>
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<td>NPT</td>
<td>Non-Proliferation Treaty</td>
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<td>NSG</td>
<td>Nuclear Suppliers Group</td>
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<td>NWFZ</td>
<td>Nuclear Weapon Free Zone</td>
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<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
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<td>PINSTECH</td>
<td>Pakistan Institute for Nuclear Science and Technology</td>
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<td>PNE</td>
<td>Peaceful Nuclear Explosions</td>
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<td>PTBT</td>
<td>Partial Test Ban Treaty</td>
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<td>PUNE</td>
<td>See UNCPICPUNE</td>
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<td>PWR</td>
<td>Pressurised Water Reactor</td>
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<td>SAARC</td>
<td>South Asian Association for Regional Cooperation</td>
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<td>SDI</td>
<td>Strategic Defence Initiative</td>
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<tr>
<td>SIPRI</td>
<td>Stockholm International Peace Research Institute</td>
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<tr>
<td>SLBM</td>
<td>Submarine Launched Ballistic Missiles</td>
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<td>SWU</td>
<td>Separative Work Unit (Unit for measuring uranium enrichment work)</td>
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<td>TASTEX</td>
<td>Tokai Advanced Safeguards Technology Exercise (IAEA project)</td>
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<td>UNCPICPUNE</td>
<td>United Nations Conference on Promoting International Cooperation in the Peaceful Uses of Nuclear Energy</td>
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<tr>
<td>URENCO</td>
<td>United Kingdom-Netherlands-West Germany Centrifuge Enrichment Company</td>
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