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Rewriting the rules for a post-Cold War world

Next year's World Conference on Science is a unique chance to reassess the dynamics of international scientific cooperation and address the challenges it currently faces. This opportunity must not be squandered.

One of the less anticipated consequences of the ending of the Cold War has been the decrease in political pressure for international collaboration in science. Behind the rhetoric of science as an international language, many of the institutions set up in the aftermath of the Second World War to encourage such collaboration — including Unesco, the United Nations Educational, Scientific and Cultural Organization — were seen by governments partly as a way to reduce tension between power blocs through greater communication and interaction. Even more familiar is the fact that much technical assistance offered to developing nations was intended, explicitly or otherwise, to encourage them to embrace a particular political ideology (whether capitalist or communist).

Thus, although the evaporation of East–West rivalry has resulted in a substantial 'peace dividend', there has been a price. The replacement of power-bloc politics by economic competitiveness faces science with an uncomfortable new world. It is therefore all the more timely that Unesco and the International Council for Science (ICSU) should have decided to celebrate the approach of the new millennium with a World Conference on Science, to be held in Budapest next year. This will be attended by government officials and senior scientists responsible for formulating national sciences policies, and is intended to address the challenges that lie ahead for science in both industrialized and developing nations (see page 299). As preparations for the conference enter their final, critical phase, some guidelines can be suggested as to how its overall effectiveness is likely to be enhanced.

Need for concrete objectives

Formulaic statements about the importance of science to the modern world should be strictly limited. Few of those attending the conference will need to be convinced of this message; conversely, those unconvinced will not be present in Budapest, and are unlikely to have their minds changed by newspaper reports, televised speeches or UN declarations. Time spent extolling the virtues of modern science will have a high opportunity cost.

Furthermore, any bold declarations of principle must be accompanied by a commitment to concrete objectives and a realistic sense of the likely availability of the funds needed to put them into practice. Many of those present will remember how the high hopes generated at the last such UN meeting, held in Vienna in 1979, rested on vague commitments to a new, multi-million dollar 'science and development' fund — and how little of this money actually materialized.

Equally, while more money for science is still urgently needed in many countries, scientists must avoid falling into the trap of believing that the problems they face can be solved through extra funding alone. Just as important, as international investment banks have been emphasizing in Latin America and elsewhere, is the need to ensure efficient use of funds that are made available. This means less support for science as a vehicle for either personal or national prestige, and increased attention, including the necessary monitoring, to ensure that scientific resources are properly used — for example through the use of peer review — and effectively and appropriately applied to social needs and problems.

To achieve the latter, the conference should explore the implications of the shift from 'producer-led' to 'user-led' science policies in both industrialized and developing nations, as expressed, for example, in the British white paper of 1993. This does not mean the disappearance of arguments in favour of support for basic science, for example in helping a country to develop a qualified workforce and a scientifically literate public, or even for its cultural value. But it does increase responsibilities on the research communities who benefit from this support to ensure that, overall, their activities contribute to all these goals.

Safeguarding science as public knowledge

The Budapest conference will also be an important opportunity to re-examine how the principle of equity of access to science is put into practice. Too often, while lip-service is given to the need to provide greater opportunities for women and minority groups in both producing and using science, insufficient efforts are made to challenge the obstacles that stand in the way. And more effective ways need to be found for enhancing the access of researchers in the developing nations to the skills and facilities of those in the industrialized world, for example through short research training courses.

The conference will be well placed to explore and highlight the importance of new forms of collaboration in science. One example, familiar in industrialized countries but less so in developing nations, is the value of regional collaboration in addressing common research priorities and avoiding the costly duplication of research facilities. Other novel possibilities are raised by electronic forms of communication, such as virtual centres or 'collaboratories' whose members work together on the web, rather than at physical centres.

Last but not least, it is essential that the conference attempts to formulate principles safeguarding the status of scientific knowledge as a public good in an era of rapidly spreading privatization. The increasing barriers to open scientific communication posed by intellectual property rights and material transfer agreements will be well known to most readers of this journal. So, too, are the problems caused for international collaboration in science by related tensions between developed and developing nations on issues such as access to genetic resources. But the broader implications of each rarely gets a public airing of the type that is on offer in Budapest.

Provided that issues such as those above are addressed in a hard-headed yet imaginative way, both in the remaining months of preparation and during formal and informal negotiations at the Budapest meeting itself, important groundwork will have been laid towards ensuring that future support for science, whether from national governments or international loan agencies, is appropriately and productively used. If not, then any 'new social contract' to emerge from the conference, however hard it is waved in the face of governments, will not be worth the paper on which it is written. □