

Universality of Science in a Changing World¹

Progress in science is made through the worldwide exchange of ideas, information, data, and materials, and the understanding of the work of others. Science is a co-operative exercise that thrives on open international interaction and exchange. It transcends national boundaries. In this sense, science is universal and when this universality is infringed or impeded it can have serious consequences for science and for society more broadly.

The essential elements of the Principle of the Universality of Science, as defined in statute 5 of the International Council for Science are non-discrimination and equity. In accordance with this principle, all scientists should have the possibility to participate, without discrimination and on an equitable basis, in legitimate scientific activities, whether they be conducted in a national, transnational or international context.

The world has changed dramatically in the past decade, as has the role of science and scientists in it. The international scientific community has grown in size and science has an ever-higher profile across the globe. It is progressing at an accelerating pace and its relationships with society are becoming increasingly complex and often politically charged. The potential for the misuse of science is broader and arguably greater and more dangerous than at any time in the past. International terrorism, and associated political and military conflicts, have brought with them prejudicial behavior and new constraints on scientific activity.

In this changing international climate, it is important that the Universality of Science be defended even more vigorously than it has been in the past. It is essential that policy makers understand that the weakening of this principle will have serious consequences for scientific progress and socio-economic development both nationally and internationally.

Threats to Universality

Threats to the universality of science take two forms: threats to freedom of association and threats to the freedom to pursue science. The first relates to issues concerned with travel on scientific business and the provision of visas for such travel. The second relates to discrimination or repression for political reasons and to excessive restrictions, constraints and limitations on normal scientific practice.

¹ This statement is based on a review of the principle of Universality that was carried out by ICSU's Standing Committee on Freedom in the Conduct of Science in 2003. See www.icsu.org for the review report.

Freedom of association

The exchange of ideas between scientists from different countries at international meetings is a fundamental part of the scientific endeavor. Even the power of the internet cannot substitute for personal interactions and discussion.

Visa restrictions and delays based on country of birth, residence or citizenship, religion, ethnic origin, and or field of scientific expertise, are increasing in some countries. In several instances this has led to meetings being cancelled or re-located. No country, no matter how advanced, can expect to build or maintain a thriving scientific community in isolation.

Freedom to pursue science

Discrimination or repression for political reasons

There are occasions when groups of people, institutions or governments refuse scientific cooperation with individual scientists or scientific institutions solely to make political statements about the policies of the countries with which they happen to be associated. There are also instances when scientists, as a result of their scientific activities, publication of their scientific findings, or expression of their scientific opinions, are no longer able to pursue their scientific work because they are victims of repression, including, on occasion, imprisonment and torture.

Whereas the major shifts in international politics in recent years have, in some instances, changed the geographical focus of discrimination and repression, these practices have certainly not been eliminated. There have, for example, been recent calls for organized political boycotts by scientists, which effectively amount to national and/or institutional discrimination. The persecution of individual scientists in some countries continues to contravene basic human rights.

Excessive Restrictions, constraints, and limitations on normal scientific practice

Various measures, often imposed on security grounds, in a number of countries are undermining the principle of Universality. These include prejudicial recruitment practices and personnel screening; restrictions on the provision and use of scientific equipment, materials and data; and, constraints on/or censorship of scientific information and the publication of scientific results. Some of the compensatory measures that have been introduced in response to these changes, including self-censorship by scientific publishers, and pre-emptive behavior by scientific organizations to avoid contravening national security regulations, are in themselves a potential threat to Universality.

These issues are often complex and may manifest themselves as cumbersome or time-consuming new procedures and regulations or even re-interpretation of existing regulations. They affect individual scientists, but also have broader policy implications involving careful judgments as to the appropriate balance between the freedom to pursue science and national and international policy imperatives.

Responsibilities for safeguarding the Universality of science

Upholding the Universality of science in the modern world implies extended responsibilities for the whole scientific community. International institutions must continue, with vigilance, to promote and safeguard Universality. At the same time, national organizations and individual scientists need to share in that effort by helping to identify problems early; seeking to resolve them ahead of any breach of the principle and supporting appropriate action when the principle is breached. All need to work with governments, and other stakeholders with an interest in strengthening science for the benefit of society, to ensure that barriers to universality are minimized or eliminated. This is an absolute prerequisite for scientific progress.

International Council of Science Statute 5: the Universality of Science

“The principle of the Universality of Science is fundamental to scientific progress. This principle embodies freedom of movement, association, expression and communication for scientists as well as equitable access to data, information and research materials. In pursuing its objectives in respect of the rights and responsibilities of scientists, the International Council for Science (ICSU) actively upholds this principle, and, in so doing, opposes any discrimination on the basis of such factors as ethnic origin, religion, citizenship, language, political stance, gender, sex or age. ICSU shall not accept disruption of its own activities by statements or actions that intentionally or otherwise prevent the application of this principle.”

Revised wording approved by the ICSU Executive Board, November, 2004