

The internationalism of science as an ideal

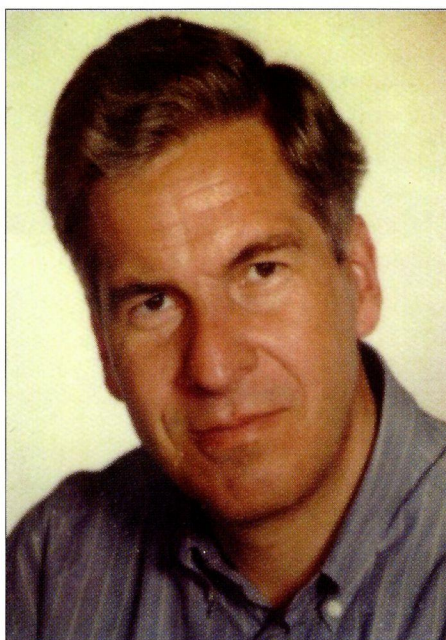
The Olympic Games are held up as the most international of all events. It is accepted that the athletes "compete for their nation" and make up "national teams". These are (unofficially) ranked according to how many medals they win, and the "most successful nations" show up. This success is taken as a benchmark of the effectiveness of training, the mood of a nation, and so on. One is tempted to compare this to the situation in science. Here the credo is: science is international. But is this really true?

There is of course a compelling reason why science has to be international. The goal of science is to find a complete and provable description of our world. This implies that the description has to be independent of the views of individuals. It must not depend on the national, ethnic, cultural or family background of a scientist or consider any other subjective aspect – science has to be, among other things, international. Only in this way can it develop a universal idea of the world.

Nevertheless, national feelings are real for a large majority, as the Olympic Games show. Does this mean that scientists have reached a higher state of collaboration and culture?

The answer is a clear yes. Excellent proof of this is CERN. Anyone who has worked there will confirm that one loses one's nationality. In his book *The Joy of Insight* (Basic Books 1991), Victor Weisskopf, who served as CERN's director-general from 1961 until 1965, wrote: "I insisted that anyone who entered CERN be regarded as a European and no longer a citizen of some nation."

Very little attention is paid to physicists' nationality – only the quality of their scientific work counts. This is unavoidable because the ever-increasing complexity and size of physics projects surpasses individual abilities. The collaboration, imposed initially by the require-



While international collaboration has become the backbone of Big Science, national undercurrents could erode these achievements. Thomas Walcher looks at some of the potential problems for physics journals.

ments of the project, becomes a habit and finally a conviction. This mechanism works equally well in all parts of the world.

However, we also know that this conviction is challenged. Nations try to gauge the performance of science as they do with other activities – sport, art, the economy, and so on.

This leads to a dilemma. On the one hand, Nobel prizes are counted, evaluations by national agencies carried out, publications counted and their impact assessed. Are national science administrators swimming against the tide of international science?

Here a particular role is played by scientific journals. The visibility and quality of national journals have been and are still taken as a measure of national scientific excellence. Such ambitions lead, however, to deplorable situations, such as favouring the work of one nation to the detriment of others.

The only solution to this problem is that publishing culture has to follow that of science itself and abandon nationalism. Several competing international journals should be maintained in the interest of science. However, since national feelings are so strong and not all scientists can work at CERN, it may be necessary to install an international "ombudsboard" to referee what goes on and pass judgement as necessary.

A frequently formulated hope is that national cultures too could embrace scientific internationalism. This feeling has developed as contacts between scientists improve due to cheaper travel and improved communications.

Knowing other people helps to overcome the feelings of insecurity and personal insufficiency for which ardent nationalism naturally compensates. The need for exchange is the key – it is no accident that the World Wide Web was invented at CERN and not by Microsoft.

Thomas Walcher, Mainz.

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