

Decline in crystallography

The guest comment on the international position of US physics by John Risley and Eugen Merzbacher in July (page 9) prompts me to draw attention to a similar decline in US crystallography as revealed by the publication of the fifth edition of the *World Directory of Crystallographers*, S. Abrahams, A. L. Bednowitz, eds, Polycrystal Book Service, Pittsburgh, Penn. (1977).

GUEST COMMENT

by
George A. Jeffrey

Crystallographers are defined, for the purpose of this publication, as those scientists whose interests relate closely enough to crystallography for them to join the appropriate national society, such as the American Crystallographic Association in the US. Since this society membership nearly always involves the payment of dues, it is reasonable to assume that these affiliations are not trivial. As judged by their employment addresses, the 7638 scientists in the 1977 World Directory are distributed amongst the sciences as follows: chemists, 35%; physicists, 18%; earth scientists, 15%; crystallographers, 14%; material scientists and metallurgists, 10%; biological and medical scientists, 8%. They therefore represent a cross section of the pure sciences, since their research is concerned mainly with the structure of matter and the consequences thereof; that is, they question why crystalline matter has certain desirable or undesirable properties, rather than how to make things having those properties.

By comparing the 1977 world list with the previous 1971 list, it is possible to observe the changes in the world distribution of crystallographers and in their interests. The total number of entries increased by a modest 9.6% in the intervening six years, but the most striking feature is the increases in certain Eastern European countries, as compared with a small decrease in the US. The changes for those countries having more than 200 crystallographers are as follows: German Democratic Republic, +88%; Poland,



Bulgaria, Czechoslovakia, +55%; USSR, +45%; Italy, +43%; France, +29%; Japan, +25%; India, +12%; German Federal Republic, 0; USA, -1%; Sweden, -10%; UK, -23%.

This suggests that the malaise in the international position of US science described in the letter by Risley and Merzbacher is not unique to atomic-collision physics, but applies across-the-board to

all aspects of physics-based sciences in the US. In parallel with this relative decline in population is a decline in the US contributions to *Acta Crystallographica*, which went from 40% in 1955 to 25% in 1975.

Another feature of interest in comparing the 1971 and 1977 world lists of crystallographers is the increase in participating nations from 57 to 71. Crystallography is one of the higher prestige sciences, if only because of the relatively large number of Nobel laureates arising out of work relating to the field. It is comparatively inexpensive and therefore attractive to the third-world countries; new names appear in the directory such as Indonesia, Iran, Ivory Coast, Saudi Arabia.

In view of the observations concerning participation in International Meetings, which prompted this letter, it is interesting to note the decrease in the number of US papers submitted for the Eleventh International Crystallography Congress in Warsaw this coming August to 88, as compared with previous overseas Congresses; 1975 in Amsterdam, 157; 1972 in Kyoto, 179; 1966 in Moscow, 127; 1963 in Rome, 190; 1960 in Cambridge, UK, 200.

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Chinese participation

We wish to respond to the guest editorial by Harrison Brown in January (page 120).

First of all, we reaffirm our belief in the "right of the scientists of any country or territory to adhere to or to associate with international scientific activity without regard to race, religion or political philosophy" or "recognition of the government of the country or territory concerned," as proclaimed in the 8th General Assembly of the United Nations and quoted by Brown. It is precisely in accordance with this belief that we question the action by the International Council of Scientific Unions that results in the ex-

clusion of our Chinese colleagues from many member unions of ICSU.

Members in the scientific unions are almost always academies representing nations. Often the directors and administrators of these national academies are appointees of their respective governments. This is certainly true of the organization in Taipei known as the "Academia Sinica, Republic of China," which pretends to represent the scientific community of all of China. While Brown referred to the "Academy of Sciences in Taipei," which suggests regional rather than national representation, it is well known to him that there is no such organization in existence. The latter was a creation of ICSU over the protest of the