educational policy to the directives of the most recent (Twenty-Third) Party Congress, which stressed the need for a considerable increase in the economic level and prosperity of the peoples of the Soviet Union and for a speeding up of the industrialization of Siberia, the Soviet Far East and other less developed regions.

Among the rash of newly opened and projected educational and scientific institutions, the emphasis seems to lie largely on the applied sciences. The new developments of the Donetsk scientific centre of the Ukrainian Academy of Sciences include, alongside a new Institute of Applied Mathematics, the somewhat specialized Institute of Industrial Economics. At the other end of the Union, at Irkutsk, the new "science village" of the East Siberian Branch of the Siberian Division of the Academy of Sciences of the USSR specializes in geology, biology, chemistry and power engineering—all of which have specific applications to the development of the region. Vil'nyus (Lithuania) has a new Institute of Building Engineering, Vitebsk (Byelorussia) a new trade training *Technikum*, while there is also interest in the new State University at Yaroslavl (due to receive its first students in 1971).

It would seem, however, that this scheme of education for industry and technology is not entirely bearing the hoped-for fruits. A brief and somewhat vague note in *Pravda* (August 8), reporting the meeting of the Commission on National Education, Science and Culture, urges, in general terms, "improvement in the training of specialists in the field of economics in Higher and Secondary colleges". In a leader of September 3, *Pravda* becomes even more explicit. Speaking of the "science centres" scattered throughout the Union and related, according to current policy, to the local industrial and natural resources, it states: "It is no secret, for example, that a number of the branches still have an insufficient experimental basis, and are suffering from lack of living accommodation for the scientific personnel, in laboratory and auxiliary buildings". Similarly, at the same time as the importance of primary and secondary education as the basis for the technology of the future is being reiterated in the Press throughout the whole Soviet Union, and new education schemes are being inaugurated such as the new schools television project in the Byelorussian SSR, designed to give instruction in the "methods of the scientific disciplines and the latest achievements of science", many schools—the regional boarding schools particularly—are suffering acute shortages of educational equipment and living facilities. In the words of the *Pravda* leader-writer, "a good material basis is the most important condition for increasing the effectiveness of scientific work". It would appear, therefore, that, before science training can come to the aid of Soviet economic development, the Soviet economy must come to the aid of at least certain educational establishments.

of the qualified people who had left for America. It is probably a greater task than MSL itself realized, because last month it shut down its New York recruiting office.

The office was opened in September 1967. It seems to have been a mixed success. MSL claims to have been instrumental in placing in British companies about 500 people from American firms and universities with HNC or higher qualifications. This figure has been estimated from follow-up records of about three hundred people from a total list of 900. These show that 70 per cent accepted appointments in Britain, and 27 per cent took up fresh appointments abroad. An average of 250 people recruited a year is substantially better than any similar scheme has achieved, but, when compared with the figure of 3,100 scientists and technologists who left Britain for America in 1966, it does not exactly reverse the flow. However, MSL claims that the contacts and expertise built up during this period in New York will be invaluable if British industry is ever going to make a significant impact in luring back its departed scientists and technologists. The contract is due to expire in March 1970, and discussions are now going on about possible extensions of the work.

MSL says that shutting down the New York office does not indicate that the project has failed, and that it will be more efficient if all the work is done in London. Given a free choice, more than 80 per cent of applicants wrote to London and not New York. All the advertising is run from a London agency; while a London base will enable MSL to concentrate more on the recipient companies.

The method which MSL has been using is to provide a link between British firms and people working in America through advertisements, direct contact by letter and through the *Transatlantic Newsletter*, a bulletin of job opportunities which has a readership of about four thousand. These methods are similar to those employed by the North American Joint Selection Board, which has been operating for about ten years and recruits specifically for the Scientific Civil Service, the Atomic Energy Authority and the Central Electricity Generating Board, but the standard of the people accepted in the NAJSB scheme and the rigour of the interview probably account for the fact that only about five hundred people have been recruited since the scheme started (see *Nature*, **220**, 645; 1968). Both schemes seem to share the property of recruiting people who have already decided that they want to return to Britain and who need some sort of push.

The reason given for returning is usually intangible, stemming from a difficulty in identifying with a foreign community. The average salary change of the people who were handled by MSL was from £5,750 to £2,900, which shows that salary considerations took second place.

MANPOWER

Brain Drain Office Repatriated

REVERSING the brain drain is a tough proposition. It is certainly a bigger proposition than the Ministry of Technology foresaw when in 1967 it awarded a contract for £85,000 to Management Selection, Ltd (MSL), for a recruitment campaign to lure back to Britain some

INTERNATIONAL ORGANIZATIONS

European Geophysical Union

from our Geomagnetism Correspondent

DURING the recent general assemblies of IAGA and IASPEI (see page 1207) in Madrid (September 1–12), two meetings were convened by Professor S. K. Runcorn (University of Newcastle upon Tyne) to discuss the

desirability and feasibility of a European geophysical union. By the end of the meeting the union had become a society, but the original wording left the participants in no doubt as to the source of the inspiration. The proportion of Europeans who attend the annual meeting of the American Geophysical Union (AGU) may be fairly small; but it is clear that many Europeans hold these meetings in high regard. Indeed, the most commonly mentioned justification for a European geophysical society (EGS) was that the proposed annual meetings would give the younger scientists in Europe greater opportunity to present their ideas in public and to benefit from contact with more experienced scientists from all the Earth and planetary sciences. This is just the function that the annual meetings of the AGU fulfil so well.

Both of the EGS gatherings in Madrid comprised free ranging discussions, although ultimately several important policy statements emerged. First, although national geophysical societies should be consulted, it was generally agreed that only a new organization with individual membership would enable the right emphasis to be placed on contributions from the less established geophysicists. Second, the most important function of the EGS would be the organization of annual meetings, probably in a different European city each year. The possibility of a new journal was thus ruled out, although the EGS must clearly produce some sort of bulletin or news letter to keep its members informed of its activities. The date for the first meeting was set at January 1971.

One of several problems which clearly worried some participants was the proliferation of meetings, which is beginning to be regarded with the same distaste as the proliferation of journals. Even now, it is possible for a geophysicist to spend about half of each year at conferences. As the EGS meetings develop, however, they could serve as a focus for meetings of other European associations in Earth sciences and thus reduce rather than increase the time devoted to conferences. A second source of discontent for some was the use of the word geophysical in the title of the proposed organization. Fortunately, Dr E. Waldo Smith, executive director of the American Geophysical Union, was on hand to explain how that organization has dealt with such criticisms. Geophysics must be defined to include the study of the Earth from its core to the outermost limits of its environment. It is clearly necessary, however, to limit the field in some way; and in practice the AGU has found that the use of the term geophysical ensures the inclusion of subjects peripheral to what is commonly understood as geophysics, but at the same time discourages the inclusion of every Earth science—for example, the bulk of what is generally regarded as pure geology.

The participants left the organizers of the two meetings in no doubt as to the degree of enthusiasm for an EGS. The next step will thus be to organize a meeting of national representatives to hammer out the scientific, financial and administrative structure of the proposed society. In the meantime, Mr C. R. Argent (Royal Society, London) and Dr Peter J. Smith (Department of Geophysics, University of Liverpool) are acting as interim secretaries. They are building up a mailing list of individuals in Europe and elsewhere who are interested in, and wish to be kept informed of, the progress of the EGS.

POPULATION

Signs of Change

from our Demography Correspondent

DEMOGRAPHERS from more than 60 countries left the London School of Economics at the end of the conference of the International Union for the Scientific Study of Population with a confidence stemming from the rapid development of the subject in recent years, and the belief that they have an important contribution to make to the formulation of general social and economic policies.

Projections of world population no longer startle, but they are significant enough to demand a reappraisal of the policies of governments in both the developed and developing worlds with regard to level of population and growth rates. The session on population policies divided naturally into two sections focused on the problems of policy in developed and developing countries. In the short term these will be different. In the developed world the old pro-natalist policies based on prohibition of contraception and abortion are rapidly becoming untenable and reliance on fiscal methods is at present the only method open to governments to influence the trend of population growth.

In the developing countries the signs of a decline in fertility are beginning to be seen. M. Boserup (Institute of Economics, Copenhagen University) attributed this to a generation effect of the decline in mortality which has occurred since the Second World War, on persons who have grown up in large families and do not wish their children to have the same experience. Government policies in the developing world are polarized into the "Indian" model where the emphasis is on the need to reduce births to aid economic development, and the "Latin American" model, which places economic motives second to the health and family welfare aspects of birth control. Current experience in western countries, however, shows that measures with a social context may directly contradict population policies formulated in purely economic terms. Rescinding family allowances is a method which has been advocated as a depressant on the birth rate, but its political implications are obvious.

In the long term, a world wide policy to reduce the rate of growth to zero will be necessary. The moot point is whether this can be achieved by fiscal means alone, albeit harsh, or whether direct interference will be necessary, perhaps in the form of child licences. Conference participants were, unfortunately, remarkably reluctant to discuss this. This dilemma of demographers stems from their treatment of the population as an aggregate, whereas policies affect individuals. If demographers hold that a current rate of growth is undesirable, whom do they expect to take action? Is it to be only persons who would prefer large families, or must all couples be prepared to accept one child, or more, less?

Questions such as these cannot be answered in a purely statistical manner, and if one theme should be extracted from the conference, it is that demographers are paying increasing attention to the social, economic and political ramifications of population growth and attempting to incorporate these into projections. So far they have tended to keep out of political controversy over population, but this should become a thing of the past.