

dioxide from the northwestern states. The reasons are easily understood, if not conspicuously creditable: a government that agrees to limit its production of sulphur dioxide for fear of the damage that might be done in neighbouring states is voluntarily abandoning some element of sovereignty, usually cherished as indivisible.

This is why the most serious problem thrown up by anxiety over acid rain is not so much the technical question of precisely what damage is done by atmospheric pollution but that of the legal framework in which the damage may be accommodated. Precedents are few, most amply represented by the fisheries agreements under the terms of which governments undertake to restrain their nationals from behaving in a way that harms an international resource. But there is already in place the framework of an international convention on atmospheric pollution beneath the improbable umbrella of the United Nations Economic Commission for Europe (which, again improbably, includes both Eastern European states and the Soviet Union and also the United States and Canada). This legal instrument owes its existence to a declaration by Mr Leonid Brezhnev in Stockholm during the negotiation of the Helsinki agreements on European security, but its provisions are for the time being properly flexible. The signatories do little more than acknowledge that acid rain may occasion transnational problems which, if discovered, may require restraint or the payment of compensation. Fortunately, however, the convention includes sensible provisions for taking account of new understanding. The first need is to find out for sure what needs to be done, the second to pay more attention to the potential of this unique agreement, potentially an effective international regulatory instrument. □

Chinese example

The rapid fall in China's birth-rate is an eye-opener to others.

THE United Nations conference in Mexico City on world population seems to have passed off less acrimoniously than might have been the case (see *Nature* 9 August, p.439). The delegation of the United States made its advertised stand on abortion, declining to provide direct subventions for organizations advocating abortion as an instrument of population control, but not so fiercely as to prevent the conference from adopting an agreed statement, the highest common factor of success at these occasions. To the extent that the form of words agreed also acknowledges the intimate inverse relationship between economic and social development on the one hand and population growth on the other, Mexico City may yet mark the emergence of a more level-headed regard for the problem of world population. The conference will also have served to dramatize for governments of all kinds the most striking lesson to have been learned in the past decade — that the demographic transition (from a state of balance at high birth and death rates to one where both are low) need not be a slow process. The recent demographic history of the People's Republic of China has people transfixed.

By any standards, the changes that have been brought about in the demographic pattern in China are staggering, with the reduction of the death rate by far the most conspicuous. Chinese sources say that the crude death rate fell from 13.2 a thousand in 1952 to 6.2 a thousand in 1979. Even if the second figure must be taken with a pinch of salt, there seems no doubt that the rate has fallen to a half in just over a quarter of a century and, perhaps more important, that the disparity between the urban and rural populations has been substantially removed. A larger fraction of newborn females survive to childbearing age, while the expectation of life at birth of both sexes is increased, to close on three score years and ten. While it remains a puzzle for the outside world that the Chinese Government has been able, on paper at least, to promulgate (in 1979) the rule that each family must in future have no more than one child, it seems unlikely that this draconian exercise could have been mounted at all if there had not

been such a dramatic improvement in life expectation.

Meanwhile — and this is what the rule is for — the birth-rate is declining. The usual conical shape of the age distribution of a population is pathetically indented in the case of China on two occasions, forty and twenty years ago. The first disturbance corresponds with the years of the Long March and the communist revolution, the second to the self-inflicted injury whimsically called the cultural revolution. Remarkably, however, the birth-rate began falling rapidly (from a peak of close on 45 per 1,000) once the cultural revolution ended. Between 1969 and 1979, it halved. But will the Government of China be able to hold the line it has drawn in the social sand, and for how long? Most probably the economic penalties for having more than one child will seem less onerous to some sections of the population as the country becomes more prosperous. □

Freedom to travel

The European Physical Society should have resisted Prague's restrictions.

THE trouble that has blown up about the European Physical Society's meeting planned for Prague later this month (see p.617) raises general questions that deserve wide attention. The circumstances are that Dr F. Janouch, once a Czechoslovak citizen and now a citizen of Sweden where he lives, has been denied re-entry to Czechoslovakia so as to attend a meeting of the council to which he was elected, and of which the Czechoslovak Academy of Science is also a member. Professor John Ziman, another member, has also as a protest rightly declined to attend. The society says it is too late to rearrange the meeting.

The question that needs to be considered by the European Physical Society and others is the proper definition of the circumstances in which they will go to the stake in defence of a member's legitimate right to share in an agreement to travel to places where freedom is not guaranteed. Traditionally and rightly, organizations such as the International Council of Scientific Unions have fought to establish that meetings labelled as international should be open to all *bona fide* scientists. Broadly speaking, these efforts have succeeded. Particular difficulties often crop up, but most international meetings pass off without difficulty.

How far should societies go in their defence of members' rights of participation? Where a society claims the right of one of its members to travel to a foreign venue, it would be disingenuous also to claim that the person concerned should be immune from prosecution for some criminal offence of which he had been lawfully indicted, perhaps on some earlier visit. Difficulties arise, however, when a host government such as that of Czechoslovakia regards an unwelcome prospective visitor as an enemy of the state on grounds that fall short of the penal code, which appears to be Janouch's case. A further difficulty is that it may seem unreasonable that people in his position, separately denied the right to return to their home ground, should be able to return under the aegis of an international organization. That is irrational — and the European Physical Society should have dug in its heels at Prague's refusal. By the same test, however, the society should have been willing to undertake, on its own behalf and Janouch's, that he would not take the opportunity to rub salt into Prague's wounded pride.

Whether the dispute could have been settled on such a basis — and whether the terms of such an agreement would have been acceptable to Janouch — will not now be known. What is clear, however, is that cases like these are unhappily likely to be more and not less common in the years ahead. The International Council of Scientific Unions should give some thought to the question at its meeting at Ottawa next month. It should also worry a little about a less explicit and thus potentially more insidious threat to the freedom of communication — devices such as that by which the Government of India makes travel to India difficult for Israelis by placing obstacles in the way of visa applications. To adapt a phrase from common-market jargon, this is a non-visa restraint on travel and should equally be resisted. □