

take a begging-bowl around to pay its dues on 1 January, but the future of its contributions remains in doubt. Mr Stockman may have concluded that the United States derives little benefit from the work of the international institute (which is probably true) and that even the institute's disappearance would be welcome (which may also be true). But international obligations cannot be overturned as easily as that. If they were formal treaties, duly ratified by the Senate, no budget director would think of striking out the associated costs. Do agreements on scientific collaboration deserve less careful consideration?

The trouble about the United States commitment to the International Solar Polar Mission is a different case. This potentially valuable scientific exploration of the Sun away from its equatorial plane has been planned for the past several years between the European Space Agency and the National Aeronautics and Space Administration, each of which was to have launched a satellite. There were howls of protest from Paris when Mr Stockman's budget omitted this item (see *Nature* 5 March, p.1) and science administrators in Western Europe have since fallen into the habit of complaining to their opposite numbers from the United States whenever they encounter them. Indeed, the Europeans are in danger of making too great a fuss; what is at stake is a single if expensive project, not an understanding affecting the survival of an institution, and in any case a single satellite in a polar orbit about the Sun at the next solar maximum will be a lot better than none. Even here, Congress is doing what it can to help (see page 102). It remains to be seen how the issue will be decided — but surely there are no grounds for flirting with the resuscitation of the Halley mission (in which every agency in the world capable of launching spacecraft will be participating) while a smaller sum of money would help to fulfil an international promise.

## From the frying pan ...

The battle for the control of the British telecommunications network is almost over; there is a decent chance that the bill with which Parliament has been struggling for the best part of a year will become law in the next few weeks. But the war is only now beginning. In the past few weeks, several groups of private interests have been cheekily staking claims to set up in competition with the telecommunications monopoly. Cruelly as it must seem to the public monopoly (trendily known as British Telecom), other British public monopolies and nationalized industries are prominent among the would-be vultures. Thus British Rail (a wholly owned nationalized industry) and British Aerospace (wholly owned until nearly half its shares were sold off earlier this year) are talking of using the railway network as the basis for a competing trunk telecommunications network. Even more cheekily, Cable and Wireless, the state-owned company originally set up to operate telephone networks overseas, is talking of entering the domestic market even though it has not yet been sold off to the public (as the government intends). Yet British Telecom is plainly not intending to put up with whatever indignities the months ahead may bring. Some weeks ago, it put out a sombre warning of the dangers of connecting to the existing telephone network terminal equipment supplied by others than itself. Last week, it published a much more intelligent document — a reply to the study commissioned by the Department of Industry from Professor Michael Beesley, which concluded that no great harm would be done, but rather good, if private interests were allowed to rent circuits from British Telecom and to use these for providing services that could then be resold to others (see *Nature* 23 April, p.619). The argument will now begin.

The resolution of these and related issues is crucially important for the future use in Britain of a technology as full of promise as politicians have been saying this past long year. And what happens in Britain may even be instructive elsewhere; experience in the United States of the erosion of the Bell System's monopoly is not everywhere valid and is in any case confusing, while governments elsewhere in Western Europe are in much the same state of indecision as afflicts the British government. But the

British experience is likely to be less helpful than it might have been. The most reprehensible feature of the Telecommunications Bill is that nobody will be allowed to chip away at the British Telecom monopoly without the consent of the Department of Industry. In practice, it will be for civil servants and British Telecom between them to decide what shall be allowed and what prohibited. Thus although the present government has promised that within three years others than British Telecom will be entitled to sell terminal equipment to telephone users (and the illicit trade is already gathering strength), a change of government could change all that. And the latest document from British Telecom, intelligent though it is, demonstrates again what has been clear all along — that there is an urgent need for an explicit set of rules and some independent tribunal for administering them.

What Beesley said was simple. British Telecom would not come to a sticky end if it were required to follow the practice forced on the Bell System in the United States, and to lease trunk circuits from its own network to private operators who might then resell telephone services. Everybody's model is the American company MCI Communications Inc., whose customers are able to make trunk telephone calls between many (but not all) cities in the United States for roughly half the cost charged by Bell. Beesley acknowledged that such arrangements would rob British Telecom of revenue but not necessarily of profit, and argued that the business is not, in any case, a zero-sum game — symbiosis between the rump of the monopoly and private operators is just as likely as out and out parasitism of British Telecom. British Telecom protested at the time that Beesley's recommendations would "skim the cream" from its own business, and repeats that argument in last week's document — but in an especially revealing way. It repeats its fear about the cream, asserts that leasing its network to others would not improve the technical quality of services provided to customers (which is untrue) and goes on to say that such arrangements would compel it to "rebalance its tariffs in order to make individual sectors pay for themselves". The simple answer to the last complaint is "Whyever not?" But British Telecom is counting on the unwillingness of British politicians to fall in with "rebalancing" if the result means higher charges for any important sector of the British electorate.

The government has only itself to blame for the embarrassment it will now be caused. British Telecom, in its reply to Beesley, is disarmingly open about its present practice. It charges extra for use of the trunk network so as to subsidize local telephone calls and rural telephones. It urges the "material benefits" of providing a uniform service at uniform prices, and says that one of the consequences of liberalization would be increased rentals for telephone lines, "hitting hardest at the less well-off customers who make the fewest calls". Just in case the government fails to get the point, British Telecom guesses that the cost of a telephone call from a public coinbox would increase fourfold. Politically, the argument is telling. It is, however, false. The annual accounts of British Telecom are at present most obviously distorted by the government's requirement that the monopoly should finance the development of its network mostly out of current revenues. If the government decided otherwise (as it should) all tariffs could be reduced. But there is in any case no justification for the present distortion of telecommunications tariffs by British Telecom's self-assumed social obligations. Why should the interests of the telephone users "who make the fewest calls" increase the telecommunications costs of more serious users, mostly from business and industry? British Telecom should instead be required to follow economic pricing policies — charges for different services related to their marginal costs — and Parliament then invited to pay for socially valuable but otherwise uneconomic services (as is already done with railway services). The difficulty is that none of this can be accomplished without an independent and public examination of what the costs should be. The government itself is not sufficiently expert and is politically too suggestible. Thus the ironical outcome of the first serious attempt to liberalize the British telecommunications monopoly is likely to be to put the clock back ten years, and to throw the management of these vital services back into the political arena.