

cluding office petroleum). Since the Wellington conference at which this agreement was struck in 1988, France and Australia have had a change of heart, and now believe that Antarctica should be held permanently as a wilderness. Other founder-members of the treaty, Britain and the United States for example, seem prepared to fall into step. Other members, Brazil, China and India in particular, will not be so compliant. Where does justice lie?

It makes great good sense that Antarctica should be left much as it is for as long as possible. It is by far the larger of the Earth's two remaining icecaps, and there is every reason for hoping that its integrity will not be threatened in the years ahead by climatic change. For many years, the West Antarctic Ice Shelf has been a particular source of anxiety, mechanically unstable as it may be. If it should slump, become detached and eventually melt, sea level worldwide would increase by a substantial percentage of the 100 metres or so expected from the melting of the whole icecap. But the well-known delicacy of the Antarctic regime is another reason for avoiding unnecessary interference. If this can be agreed during the Santiago meeting, so much the better.

But there are other goals, including the seemingly conduct of the continuing research programme. The usefulness of Antarctic research is amply illustrated by the discovery there, in the Antarctic spring of 1986, of the 'ozone hole', crucial for the proper understanding of the global effects of chlorofluorocarbons on the ozone layer and, indirectly, as greenhouse gases. But much of the research carried out in the Antarctic is too ill-designed to deepen understanding of any kind. Signatories of the Antarctic Treaty cannot be expected to seek approval for their research plans in advance, but it would serve almost as well if all Antarctic researchers were required to present the results of their investigations at regular meetings of kindred spirits. And should there not also be a means by which data gathered by all research programmes should be made generally available within a reasonable time?

A procedure for data-sharing has a direct bearing on the question of Antarctic minerals. The Wellington agreement that commercial exploration should be allowed, with safeguards, sprang from the suspicion that the patches of crustal rock beneath the icecap are a cornucopia of coal, oil and metal ores. Even if the agreement on exploitation is now abandoned, as it should be, the underlying suspicion should be tested. Would it not be strange that Antarctica should be locked up for the rest of time without knowing whether it is full or empty of riches? That is why projects involving drilling into the Antarctic crust, which may be important in understanding the tectonic history of the continent, should be dealt with separately from others. International approval in advance is an obvious need, if only to avert suspicion that they are exploratory ventures in disguise. And there should be arrangements for international access both to the data gathered and even to such physical cores as are recovered. □

Election prospectus

With a British general election due within 19 months, British science should say now what it wants.

MRS Margaret Thatcher's brush with dissent among her own supporters this week should be a reminder that, after more than a decade of deprivation, the British scientific community should quickly form a coherent view of what it expects from the next government, whatever its political colour. Those who do not ask are unlikely to be rewarded. Here is a skeletal framework for rational expectation:

Pay. For almost 20 years, the salaries of British academics and researchers in the public service have been linked with the rate of general price inflation rather than with the general increase of prosperity. The government's recent exhortation to universities that some people should be paid more than others has cut very little ice so far, and would not in any case diminish the degree to which penury has aggravated researchers' general loss of self-esteem, and of the esteem of other professions.

Research funds. There is no absolute way of telling whether the scale of government support for basic research — £850 million a year in direct payments to the research councils, augmented by an increasingly notional 30 per cent of the recurrent university budget, is sufficient for the need. But there are too few research grants large enough to support internationally competitive research groups even in relatively inexpensive fields. That, as much as the general increase of academics' teaching loads and the distraction of others by extraneous responsibilities, explains why morale is so slow to recover from its nadir (in 1988?). Yet another reorganization is needed, but what?

Students. The research profession differs from most others in the intimacy of its dependence on and solicitude for young people, graduate students in particular. But these are also precisely the young people on whom British hopes for a brighter economic future necessarily depend. There is ample evidence that there are too few of them, especially when allowance is made for the numbers who drift off elsewhere — a tendency that can only be increased by the European single market, still due on 1 January 1993. But there are also disturbing signs that the research profession has acquired such a bad name in recent years that many young bright people are electing to train in other fields. The British educational system has been over-reformed, but yet another round (including a general switch to four-year undergraduate courses) is needed urgently. How will that be done, and who will pay for it? The tendency in the past few months to suppose that students and their families will pay for the expansion needed is an illusion.

The document put out by Save British Science earlier this week (see page 275) pays attention to these same components. Will that organization become the lobbyist the research enterprise needs? □