research? **A.** Yes, but the question is badly put. Government spending on applied research is already substantial, chiefly through the government's own laboratories, especially defence laboratories; more should be spent by means of contracts with industrial and research organizations. What the House of Lords appears to have in mind is the possibility that industrial money from applied research might be used to prop up the research enterprise as a whole. Many universities have increased their incomes substantially by industrial contracts; the cost, in the diversion of creative people's interests, is not yet known. The chance that research council institutes may be able to save themselves by similar means is, however, much smaller.

Q. *How is the Rothschild principle working?* **A.** Not well at all, partly because the government that in 1971 enthusiastically welcomed the doctrine that applied research should be carried out by research councils, acting as contractors for customers identified as government departments, never gave the doctrine a chance. The notion that 10 per cent of the funds transferred in this way should be for basic research was never tried. Government departments have not been provided with chief scientists capable of operating the system, and have been free to renege on their commitments when it suited their convenience, causing mayhem in the research laboratories concerned.

Q. *Can defence research help civil research?* **A.** Yes, but only if the system is reorganized. The Prime Minister, Mrs Margaret Thatcher, and her now departed Defence Secretary, have never adequately delivered their promise, two years ago, to make defence research more open to British civil industry. Secrecy is only part of the problem. Lack of interest is a more serious obstacle. This is yet another reason why there should be a minister not merely to coordinate the government's spending on research but to develop a coherent policy on the subject.

The benefits of such a role are wider than mere coordination, although the value of a means of getting important questions decided cannot be underestimated. SERC may have procrastinated over the organization of astronomy, keeping those working at its establishments on tenterhooks, but the government is worse. Nothing has been heard of the proposal that Britain should bargain a reduced contribution to, or withdraw from, the European high-energy physics organization (CERN) since the government assumed responsibility from the Advisory Board for the Research Councils. Does anybody care what the consequences are for British academics, graduate students and potential graduate students who are vitally interested parties? On a smaller scale, but one not less vital for those whose careers are affected, the Ministry of Agriculture, Fisheries and Food has been brooding since last summer on an intelligent proposal that the Plant Breeding Institute, which develops new cereal varieties (among other things) should be joined in some manner to the National Seed Development Organization (which makes a profit for the Treasury by exploiting the same varieties. It is simply maladministration that these questions are neglected.

The question of money is important. The British government's policy for six years has been to keep the cost of civil science static. The enforced premature closure of once productive enterprises may have helped to balance the Treasury's books, but has otherwise been a diseconomy. It can only be a matter of time before the government (or its successor) has to change tack, and to behave like a spendthrift to undo some of the damage that has been done.

There is also the matter of people's morale to be considered. There is something in the belief that what is wrong with the British research enterprise is not the lack of money, serious though that may be, but the way in which continuing uncertainty has sapped people's belief that the research they do will be a foundation for even better things. In basic research, the time has gone, in Britain, when there was reasonable hope that modest beginnings could, if successful, grow into bigger enterprises. That is the sense that needs to be restored, more quickly than the supply of mere money. □

Agenda for Geneva

The resumption this week of the superpower talks is a time to ask what they can achieve.

As the Reagan–Gorbachev summit recedes in time, so do its problems. This week, the reassembly of the bilateral arms control negotiations at Geneva should bring them back abruptly. The US Strategic Defense Initiative (SDI) is bound to be high on the agenda; the summit participants agreed only to disagree about it. The first objective should be to prevent this divisive issue from wrecking the hard work that must be done on the control of strategic missiles. The second should be to confine the bargaining within the framework of what is realistically possible. Then, this year may even yield some tangible agreements.

This time, optimism is in order. That the summit happened, and did not finish up as a shouting match, is one good sign. That there is to be a second meeting later this year is another; the temptation to sign an agreement with some substance will be irresistible (especially with the mid-term elections in the United States just a few months off). But there is also a good chance that there will be progress in the multilateral talks at Stockholm; if some sting can be taken from the fear of a war in Europe, it should be possible for the stragetic negotiations to be flexible.

Finding a realistic framework for a year's work at Geneva will nevertheless be difficult. The Soviet Union and the United States, in the weeks before the summit, were talking about schemes for reducing strategic missile forces by about a half, but in terms that make each side's proposals unacceptable to the other. The Soviet plan has the added complication of counting as strategic missiles the French and British nuclear forces, over which the United States has no control. Attempting from Geneva to legislate for these missiles would be fruitless, at least in the immediate future. So the best strategy for the negotiators will be to adopt the goal of a 50 per cent reduction as one for 1987, and, during 1986, to aim at the more modest but attainable goal of putting the existing unratified agreement on strategic arms, SALT II, on a permanent basis that the US Congress will accept. Especially if there is some movement at the Stockholm negotiations, it should also be possible to deal with intermediate missiles by freezing them (with the proviso that the planned US deployment in Western Europe should be completed).

But why such a modest goal? Chiefly because a more ambitious agreement could not possibly be completed in the time available, but also because an agreement to make SALT II stick (it lapses in 1991) would force on the two governments concerned experience of the practical operation of arms control agreements which they at present lack. The idea that there should be regular meetings to discuss what missiles are where, and formal attempts to construct inventories of hostile forces, is unfamiliar. Operating such a system at strategic levels much like the present is a necessary preliminary. Aiming for a comprehensive test-ban now is similarly unrealistic. That is a task for 1988.

The complication of SDI should not be the obstacle public rhetoric suggests. The US administration insists that SDI is a means of making the world safe from the threat of nuclear weapons, the Soviet Union that it is a trick to make the United States alone immune from nuclear retaliation and therefore a provocation. If SDI is technically feasible, both views are tenable. But nobody can tell whether SDI is a realistic development programme or simply a technological mirage. The only reasonable technical prospect is that SDI will spawn, as a minor by-product, a satellite-borne warning system based on infrared detectors. So the Soviet interest would be met by an arrangement that the general character of SDI experiments beyond the atmosphere should be disclosed by a formal agreement to ban the development and testing of anti-satellite weapons and by the clarification and reaffirmation of the Anti-Ballistic Missile treaty. So much could be accomplished by the autumn of this year. □