

# What next for space?

*The future of the US space programme is still unclear, despite the Space Science Board's report.*

THE report of the Space Science Board of the US National Academy of Sciences has been a long time in gestation and, even so, leaves many important issues unresolved (see page 6). The board's diffidence is nevertheless understandable. Its study was originally commissioned by the National Aeronautics and Space Administration (NASA) in 1984, when it seemed that the then future held the prospect of more spacecraft than could be populated by well-designed instruments. In the event, the outlook is not nearly as bright, while the Space Science Board is also plainly in something of a quandary about the extent to which it should bite its sponsor's hand.

1984, it will be recalled, was the year in which NASA, having engineered what appeared to be a successful shuttle craft, won the US administration's support for the construction of a space station. The chances are high that approval would not have been forthcoming if there were not then (as now) signs that the Soviet Union was making much fuller use of men in space than seemed likely in the United States. But what would the space station actually accomplish? To that question, NASA responded traditionally, by asking the National Academy of Sciences. It may not now much matter to NASA that the reply has taken four years rather than two, and that it provides even now an unclear vision of what the space station may do. Is not the project so far down the road that even the next administration is unlikely to call a halt to it?

That, unfortunately for NASA, may be over-complacent. The next president will urgently have to tackle the problem of the US budget deficit, about which bankers overseas recognize that nothing can be done in an election year. It would be an embarrassment, but not an insuperable one, if the United States were to decide to save some part of the \$12,000 million-plus committed to the project. Certainly there is nothing in the report by Dr Thomas M. Donahue and his colleagues that could be misread as a full-throated endorsement of the space station. Remarking on the inescapable need to develop even better automatic instruments than there are at present, and on the uncertainties attending the medical consequences for those who spend very long periods away from terrestrial gravity, the group says it is too soon to tell where the boundaries of the human occupation of space will eventually be drawn. That is hardly what NASA can have been hoping to hear.

Surprisingly, the group is also less than clear about the role of the United States in international collaboration. To be sure, it says that space exploration is an "international activity" and that the United States must be ready to collaborate in all kinds of ways. But then it goes out of its way to insist that collaboration as such should not be the goal, but that scientific objectives should be paramount. Up to a point, that is prudent enough. But might this not have been an occasion when a high-level committee on Donahue lines might have taken up the question of how the corrosive competition in space between the United States and the Soviet Union might in the long run be turned to more fruitful paths? The recommendation that collaborative ventures should not have more than two other major partners "until a record of successful experience accumulates" is unshakeable but hardly what the occasion requires.

But the most glaring weakness of the report is that its intelligent and even imaginative shopping-list for projects that might in future be carried out says nothing about the priority that is attached to them. That is not entirely the committee's fault. The president of the National Academy of Sciences, Dr Frank Press, explains in his covering letter that the board's shopping-list is longer than could probably be accommodated in the foreseeable future, but that the Donahue committee has taken the view that setting priorities would not be appropriate when doing that

accurately would require information from space projects not yet launched. Yet Press was the one who, the other day, insisted that it is better that scientists should rank projects in some order than leave the process to politicians. Might he not have shared his thinking a little more explicitly with the Donahue committee? And what would be wrong with a prescription that the next projects should build on and extend those that have already succeeded? NASA, by contrast, is habitually captivated by the novel, skimping in the process on its support for the analysis of what has already been done. □

## Concessions won

*British universities have won modifications to the Education Reform Bill, but need extra funds too.*

BRITISH universities have succeeded much better than they had any reason to expect in modifying the government's *dirigiste* Education Reform Bill (see page 7). The most important concession by the government so far is the undertaking that the new proposals that academic tenure should generally be abolished will not be allowed to compromise the freedom of individual academics to hold eccentric or unpopular opinions, but in an exceptional all-night sitting last week, the House of Lords also secured a number of concessions on the circumstances in which academics could lose their jobs on the grounds that their fields are no longer relevant to their institutions' needs. Unexpectedly, last week, the government was also defeated on the important issue of whether the Universities Funding Council due to replace the University Grants Committee would make grants to, rather than contracts with, its dependent universities. The government insists that the difference is semantic only, implying that neither word need constrain bureaucratic interference with the way in which British universities are run. But it is far from irrelevant that the issue has been raised.

Much of the reason for these concessions won by the House of Lords is, no doubt, that the government is in a hurry. Its plan is that the machinery for distributing funds to universities should be in place by next April: there is no time for the delay that would follow from an unresolved conflict with the House of Lords — although it will be time enough to be throwing hats in the air after the bill is read there for the last time at the end of this week (7 and 8 July). But the concessions are also a victory for the Committee of Vice-Chancellors and Principals (CVCP), which on this occasion formidably took the initiative in pleading that the bill should be opposed, in showing that it could be opposed effectively and in mobilizing the opposition in the House of Lords. On balance, it has been a good fight well fought.

So does that imply that British universities can now breathe freely? Unfortunately not. There is still no prospect that the funds available from public sources will be anything but constrained. The new funding council will no doubt be compelled to extrapolate into the future the plans on which its predecessor is working to cause most universities to abandon research-led teaching in many fields. Already CVCP has been compelled to point out that the funds so far allocated for the 1990–91 financial year fall short by £50 million of the sum that will then be needed for restructuring — the euphemism for paying off academics made redundant. Yet this prospect coincides with the discovery that the British economy is once more short of skilled people in fields such as electronics and information technology, and with the more general suspicion that a country ever-eager to declare its ambition to compete with the most adventurous national economies (such as Japan) cannot indefinitely limp along with a rate of participation in higher education that is only half as great. The British government has been consistent in its determination not to meet the cost of such an expansion on the traditional pattern, in which case it must finally make up its mind about the means by which it will turn contraction into expansion. That is the issue to which CVCP should now turn its attention. □