

National Bureau of Standards, with \$32.5 million, is marginally worse off than last year. The National Science Foundation, on the other hand, has done rather better this year than last. Its budget will be \$495 million, an increase of \$15 million over last year. Elementary and secondary education shows an increase of over \$200 million, to \$1,667 million, but higher education has been cut by \$20 million, to \$1,158 million.

In many cases, further cuts are threatened by a plan recently announced by the Administration. This is intended to force agencies to cut their expenditure below the levels proposed to Congress by the President. Under the formula, some programmes are to be cut by 10 per cent of programme costs and 2 per cent of payroll costs. The idea behind the reductions was to try to persuade the House Ways and Means Committee to look more kindly at the Administration proposal for a 10 per cent tax increase. The committee has so far remained unconvinced, preferring to cut public expenditure rather than raise taxes. Much will depend on whether the projected budget deficit for this year is greater than that for last year or not. In some cases the cuts imposed by the Administration will be less severe because of the reductions imposed by Congress, but the AEC, for one, seems likely to be a sufferer if the plan goes ahead.

The effects of these cuts will not be fully appreciated in the universities until the spring, when arrangements for the academic year beginning in September 1968 will have to be made. Administrators seem to be most uncomfortable about the possibility that smaller research budgets will make it much more difficult to retain new graduates as assistants, who shoulder collectively a good deal of the teaching burden at a great many universities. But there is also talk of how laboratories dependent on the mission-oriented agencies for finance may have drastically to alter plans for the years ahead. In the circumstances, it will not be much of a surprise if many organizations find themselves running for cover at the National Science Foundation.

## British Computers

FOR some months, the leading British computer companies, International Computers and Tabulators and English Electric/Elliott Automation, have been coyly denying rumours of a liaison. But now the secret is out—at the annual general meeting of ICT on December 13, the company chairman, Colonel A. T. Maxwell, admitted that discussions were in progress. The match-maker has been the Ministry of Technology, which has never hidden the fact that it is interested in a rationalization of the British computer industry. So far, the Ministry says, only ICT, English Electric and itself are talking, but it is probable that other British companies are taking more than a passing interest. The talks, which have been in progress for a few months, are likely to be concluded within “months, rather than weeks”.

The argument used in favour of the merger, if it comes about, will be that the UK market is too small to support two companies competing across the board. Too much duplication of research and production, it is said, is more than Britain can afford in a market still dominated by United States companies. As well as the production of central processors, both firms make a wide range of peripheral devices. Although ICT estim-

ates that the British market is going to show a growth rate of around 15 per cent for the next few years, American competition, chiefly in the form of IBM, is likely to swallow up about half of that. ICT says that it has one-third of the British market, the same proportion as that taken by IBM. If this sounds like drastic American penetration of the British market, it is worth remembering that IBM has something between 70 and 80 per cent of the world market; judged on this scale, the performance of the British companies in recent years has been quite respectable.

English Electric, although it is still making a few Leo and KD machines, is concentrating now on its System 4 range. There are several models in this ambitious range, the first to use wholly integrated circuitry, and they range from the 430, which costs about £100,000, up to the 475, a multi-access computer costing around the £1 million mark. English Electric says that it has had orders for the range worth £25 million. The plans for a big computer, originally proposed by Elliott Automation before it was taken over by English Electric, now seem to be in the melting pot, and a joint planning group has been set up to decide what should be done. The integration of English Electric and Elliott Automation is now going ahead quite quickly, but there is still work to be done, including most probably the unravelling of an arrangement negotiated by Elliott's with National Cash Register.

ICT also makes a full range of computers, less ambitious technically than the System 4, but successful commercially. At the annual general meeting last week, Colonel Maxwell was able to announce cheerful increases in profits, up from £2.22 to £2.87 million.

ICT, then, is in better shape than before, while English Electric is still struggling. No amount of confident talk can conceal the fact that substantial production difficulties have arisen with System 4. In the circumstances, ICT sometimes looks as if it is waiting for English Electric's position to get weaker still before it steps in with a firm merger offer. This may be the reason why Colonel Maxwell assured his shareholders that ICT would be the largest single component in a combined company. Quite clearly neither company is as keen on merger as the Government, and it is probable that some “lubrication”, in the form of cash from the Industrial Reorganization Corporation, will be needed before terms are finally agreed. But the fact that the two companies market directly competitive ranges means that no easy merger is likely—in this case there can be no talk of the two ranges being complementary. The chances are that one would have to go.

## Proton Accelerator Delayed

THE meeting of the council of Cern held at Geneva a week ago served principally to confirm what has been clear for some weeks now—that the 13 members of Cern are not yet able to commit themselves to the project for building a 300 GeV proton accelerator. That said, it does appear that the tone of the meeting was cheerful and even constructive, so that even though the deadline originally set for a decision about the machine has now been passed, the hiatus in the planning is more accurately described as a postponement than an abandonment.