

to fare. But from a random enquiry, it appears that many, including Leeds, Surrey, Birmingham, York, Bradford, Nottingham, Sheffield and Aston, think they will escape the short term effects of the cuts. They either had no major buildings planned for this year or had signed contracts for projects before August 1; no doubt, as luck had it, many of the decisions were made just in time at the end of last term, before the staff dispersed. On the other hand, Lancaster may well have the second stage of one of its colleges costing £0.5 million deferred, and Bath has three projects, worth about £1 million in all, at stake. These include a large student hostel, but because the university has been using prefabricated industrial building methods it may just escape the axe. But at Essex a building for social and comparative studies, at East Anglia the second stage of an arts faculty building, and at Bristol the second stage of a women's hall of residence all seem certain candidates for deferment.

Although the picture may be quite different when all the vice-chancellors' returns are in, it seems at the moment that student accommodation will, more than anything else, be hit by the moratorium. Apart from major college and hostel building schemes which are likely to be cut, all the universities will find that plans for converting private houses into student accommodation will be severely restricted. And, unfortunately, with public opinion currently anti-student, the universities may find it hard to win much sympathy about that.

Without knowing by how much the Government intends to reduce spending on the universities it is, of course, impossible to say whether the UGC will manage to squeeze sufficient economies from the capital grants. If the cuts are insufficient, however, the UGC has already been warned that about £1 million will be cut from the £19 million grant made to the universities for purchasing equipment in the financial year 1969-70. Only the recurrent grants, which are chiefly used by the universities to pay salaries, have so far emerged unscathed. It is now up to the UGC to do what it can to select the most important building projects that have still to be started and ensure that they escape the moratorium. The UGC should also tell the Government that it is hopeless to expect the target of 223,000 students by 1971-72 to be achieved unless the universities are given some guarantee that from one month to the next they will have the funds for rational expansion.

These developments cast a longer shadow than the mere threat that necessary buildings will be delayed for several months or even several years. This latest round of economies, understandable though they are, must surely force on the universities the question of whether they can safely remain as dependent on direct support from public funds as they have become in the past four decades. The issue is not the stark and old-fashioned quarrel based on the assertion that public money must always corrupt what is sometimes nebulously known as academic freedom. The truth is that, in a modern society, governments must necessarily

play a crucial part. The real question is how this should best be done in modern Britain. The problem is to balance the benefits of massive and direct support from public funds against the disadvantages which are now becoming more apparent. Over the years, successive British Governments have been able to sustain the growth of the university system at a pace which is unlikely to have been attained in any other way. By the machinery developed for distributing funds to the universities, it has also been possible to ensure that the less naturally favoured universities have been able to grow strong most quickly. The snag, now painfully apparent, is that the development of the universities is awkwardly linked with the ups and downs of national prosperity, but there are also reasons for believing that the universities would in present circumstances be much more enterprising institutions if they were not so spoon-fed. (One of the ironies of the latest arbitrary economies is that they will do nothing to encourage the universities most anxious to use their ingenuity to make the fullest use of scarce resources.) The time has probably come to explore other ways of balancing the university budgets, and the Treasury evidence to the Robbins Commission shows that there is no necessary conflict between public policy and the other methods of financing. The departure of Sir John Wolfenden from the UGC is another reason for looking again at the alternatives.

ACCELERATORS

Italy Backs CERN

SINCE the 38th council meeting of CERN in June, when Professor B. H. Flowers announced that Britain had decided not to join the project to build a European 300 GeV accelerator, there has been something of a hiatus in the affairs of the organization. The news last week that Italy is willing to participate in the big machine is therefore an important step forward. This brings the number of countries who have stated their willingness to join the project to four—Belgium, France and Austria had agreed to participate well before the British decision was made known. Whether or not the project now goes ahead depends chiefly on the attitude of West Germany, which makes the largest contribution to the CERN budget—23.3 per cent. It is clear enough that without two major contributions—the West German and the British—the accelerator could not be built. But there seems to be optimism in the organization that the West German decision will turn out to be favourable. Germany has carried out a technical appraisal of the project which it is felt should have more influence on the West German ministers than did the corresponding British document on the British Cabinet.

While the West German government makes up its mind, CERN is going ahead with a revision of the 300 GeV project in the light of the British announcement. This revision is being based on the condition imposed by Italy, which specified that its contribution should not exceed that originally calculated. It is now assumed that the other nations involved will take a similar line. Various plans for reducing the expenditure on the machine by the amount of the British

share are now being aired in Geneva. CERN is anxious not to prejudice in any way the ultimate energy and beam intensity of the machine, and in the first place it is thought that cuts will come by having only one experimental area instead of two, by cutting down on ancillary equipment, or by attaining the maximum energy in several steps. That CERN is optimistic of finding ways of bringing about a 20–25 per cent cut in the cost of the accelerator shows just how flexible the project is, something the British Government has so far failed to realize. It is now even clearer than it was in June that the curt “no” from Britain was unnecessary, that there was plenty of room for bargaining, and that a reduction in expenditure on the project was there for the asking.

Last week's decision by Italy has given a boost to the revision of the project now going on at CERN because it should encourage the smaller nations which are members of CERN to join in. The Italian contribution of 11.24 per cent to the basic programme of CERN makes it something of a link between France, Germany and Britain, contributing between them 64.8 per cent, and smaller nations such as the Scandinavian countries, the Netherlands, Spain, Switzerland and Greece, contributing the remainder. Just now the odd per cent or two of the smaller contributions are vitally important to the project. CERN is hoping that these countries will follow the lead now set by Italy.

It has to be recognized that the June decision by Britain puts the earlier declarations from Belgium, France and Austria in a new light. At the 38th council meeting in June, these countries were urged to reconfirm their decisions. This they are confidently expected to do, as the new plans will not require any increase in the individual contributions they are being asked to make. As far as the French are concerned, a great deal of water has passed under the bridge since their verbal agreement in June last year to participate, and their later written confirmation. The French government is, however, still felt to be favourably disposed towards high energy physics research.

Meanwhile the Intersecting Storage Rings (ISR) project, which forms part of the basic programme of CERN and to which Britain still contributes, is going ahead. Construction of the ISR, which will in many ways be equivalent to a conventional accelerator of 1,700 GeV but not to be regarded as in any way a substitute for the 300 GeV machine, has now reached the half-way stage, at an expenditure which is so far 5 per cent below the estimates. This seems to give the lie to the notion that the cost of CERN projects escalate in a manner reminiscent of the aircraft industry. It is true that the cost of the 28 GeV accelerator rose considerably from the original 1953 estimates, but CERN would have it that most of this increase was not to make the project realizable, but was rather an expansion of the investment in view of the success of the project. And it is impossible to deny that as international cooperation in ambitious scientific projects go, CERN has been a notable success. If it really was escalation of the costs of the 300 GeV machine which worried the British Government—and this must be less of a fear as CERN becomes more experienced—then the thing to do was to suggest to CERN that the project be looked at again with a view to checking the costs and reducing them where possible. CERN is having to do this now anyway, and by the look of things is succeeding.

BRITISH ASSOCIATION

More Support Wanted

As it meets this week in Dundee, the British Association is hopeful that it will be able to continue and expand its wide range of activities. But financial problems remain. This year the association has again shown a small surplus on its accounts, but, as the annual report reveals, to achieve this it has been necessary to impose some very strict economies.

The largest decrease in expenditure has been a cut of some £2,500 in the financial aid given to area committees. Local activities have, however, been maintained with aid from local education authorities. In some areas, notably the West Midlands and Sheffield, authorities have agreed to contribute a fixed sum per thousand pupils on an agreed programme of activities, while in other areas support is to be more closely linked with the activities undertaken, on the basis of local participation in each event. Overall support from local education authorities and other local sources increased from £4,360 in 1966–67 to £10,236 in 1967–68.

The branches and area committees foresee fairly cheerful prospects as long as the association itself continues to provide the administrative services. Their lack of administrative machinery meant that the whole of the £10,000 grant from the Ministry of Technology to branches and area committees in 1967–68 was not used. Hopes of improving the local administration as increased activities demand have been dashed by the failure of the parent association to obtain an increase in its grant from the Department of Education and Science. This grant has been renewed at its previous level of £12,500.

Hopes for the future lie in the association's membership and in donations from various sources. The question of membership has been reviewed this year by a special committee which is due to report to the general council in Dundee. One possibility is that local membership could be increased considerably. The association also hopes to be able to increase its income from donations from trusts, business, industry and individuals, many of whom are already giving generous support.

PRESIDENTIAL ADDRESS

Science and the Good Life

It has become customary for the president of the British Association to give an address that is not concerned with any specialized field of science. In Dundee on August 21, Dame Kathleen Lonsdale, president of the association this year, took advantage of this freedom to comment on some of the things about which she obviously feels strongly. Her topic was “Science and the good life”, and she seemed to be giving a clear warning that although scientists are in a position to give us the good life, they might just as easily deprive us of it altogether.

Discussing some of the ways in which science has already affected life, Dame Kathleen argued that the human character has been influenced by the need to deal with increasingly complex moral problems. We feel guilty about people starving in India because with all the resources of science we ought to be able to help