

annual report it admits to the difficulty of finding capital to continue the rebuilding of the Regent's Park zoo. As there is no hope of meeting this from revenue, the money will have to come from gifts and donations even more generous than those that have assisted the rebuilding done so far and made possible the regeneration of the society's scientific activities.

A temporary relief from this parlous financial situation has been afforded by the government loan of £375,000 which was announced last month. The Zoological Society has stated that it intends to draw on the loan only as a last resort but, be that as it may, the hiring of management consultants seems to have been part of the deal. The consultants have not yet been appointed, but in the way of their trade they are more likely to regard the zoos' affairs in terms of profit and loss than the society's preferred nomenclature of surplus and deficit. Once this change of attitude begins, where will it stop? Or why should it stop at all? There is much to be said, on the face of things, for turning the zoos into a public company, which would be supervised by a board of trustees provided by the Zoological Society. Under an arrangement like this the society would retain complete control over the academic affairs connected with the zoo, yet at the same time would have a considerably freer hand in tackling its financial problems—for example, by raising loans on the stock market and by gaining a hard and fast criterion for setting the admission prices. Hitherto the society has laudably tried to keep these as low as is consistent with some acceptable but presumably fairly arbitrary rate of deficit (the admission price for adults visiting Regent's Park was last raised in 1966 from 5s to the present price of 7s 6d). Yet there seems no good reason why the society should not follow the example of the railways, the post office and other public utilities in bending to the strictly economic demands of the market. The public pays for its bread; why should it not also pay for its circuses?

DATA PROCESSING

Computer Bureaux Report

In the eyes of the private computer services bureaux, the National Data Processing Service run by the British Post Office is now a *fait accompli*, but the snail's pace of its development means that it is not giving much cause for alarm. The trade association of the computer services bureaux, set up just over a year ago, has come up with the suggestion that the Post Office's bureau ought to become a member. Called the Computer Services Bureaux Association (Cosba), the trade association has already had a success with its code of conduct for members, published last year (*Nature*, **219**, 995; 1968), which protects customers from fly-by-night firms, as well as guarding the bureaux themselves from a situation like that in the United States where 35 per cent of bureaux collapse during their first year. The question of the National Data Processing Service (NDPS) becoming a member is raised in the association's first annual report, but has been shelved until the autumn, by which time the Bill to turn the

Post Office into a public corporation, at present going through Parliament, ought to be law. But a spokesman for Cosba said that the Post Office is "not keen" on the idea. According to the Post Office, however, NDPS membership of Cosba has already been rejected after careful consideration, on the grounds that, as a government department and as part of the Post Office, the NDPS could find itself in an embarrassing position during Cosba negotiations with government bodies. The situation is not expected to become any different after the Post Office Bill has been passed, when the NDPS will still be part of the Post Office. It looks as if Cosba will have to be satisfied with the good relations which, according to the report, have been established with the NDPS, and with the regular meetings instituted between the two bodies.

How long the good relations will last is another matter. Cosba is at present squaring up for the first real test of its ability to protect its members from what it considers to be unfair competition from the NDPS. According to Cosba, the National Computing Centre has directed the National Federation of Builders' and Plumbers' Merchants to use the NDPS for a major computing project which is planned. Cosba is claiming that its members were given scant information on tendering for the project by the National Computing Centre, and that its members were denied access to the officers of the federation. Cosba's first step has been to send a telegram to the Minister of Technology asking for an early investigation into the affair, which could be the first example of the sort of discrimination that Cosba has been fearing.

At least Cosba should be pleased by last week's decision by the Economic Development Committee of the Office to set up an advisory group on data transmission. There have already been a series of meetings between Cosba and the Post Office to discuss problems in data transmission and the planning of future data networks. Last year the Post Office initiated four surveys into various kinds of data transmission networks (*Nature*, **219**, 1097; 1968), including a market survey of the expected demands over the next fifteen years, on which the advisory group will be able to base its deliberations. It is unfortunate that the results of this crucial market survey, which are expected to be available in May, are not likely to be made public.

NATURAL GAS

More Gasbuggies

THE success of Operation Gasbuggy, the first US experiment in the use of underground nuclear explosions to increase the recovery of natural gas from rock formations of low permeability, seems to have caused private power companies to beat a path to the US Atomic Energy Commission's door. Two new experimental projects have been announced recently. No sooner had the AEC reached agreement with the Austral Oil Company of Texas over project Rusilon, the explosion of a 40 kiloton device 8,400 feet below the surface at a site 12 miles from Rifle in Colorado, than plans for a third test were announced. This one, in the Green River Basin in Wyoming, has been prospected by a consortium of oil companies known as the Wyoming Atomic Stimulation Project (WASP)

which was organized in 1967. The AEC and WASP are to explode a nuclear device in the 50 kiloton range at a depth of 11,500 feet in the sandstones of the Merna region of south-western Wyoming.

Both project Rusilon, which is scheduled to be exploded at the end of May, and the Wyoming project, which is still in the early stages of planning, are modelled on Gasbuggy; their aim is to produce a chimney reservoir and fractures in the gas bearing but relatively impervious rock, which should make it more porous. These new projects are more ambitious than Gasbuggy, which was jointly financed by the AEC and the El Paso Natural Gas Company and which involved exploding a 26 kiloton device at a depth of 4,240 feet in north-western New Mexico.

Project Gasbuggy itself seems so far to have gone off without a hitch and to have fulfilled all the predictions made for it. The project has now reached the stage of six month production tests, and the results of a series of three 30 day production tests, which the AEC announced recently, are most encouraging. So far the Gasbuggy project has yielded 167 million cubic feet of gas, 109 million cubic feet of which were obtained during the three 30 day tests. By comparison a conventional well only 400 feet from the site of the Gasbuggy explosion has produced only 85 million cubic feet during nine months continuous operation.

Equally important, the quality of the gas has improved. During the 30 day tests, the hydrocarbon content of the gas increased by a third to 82 per cent, while the carbon dioxide content fell by a half to 12 per cent, as the reservoir of carbon dioxide produced when rocks were vaporized in the explosion was depleted. Hydrogen and other gases account for the other six per cent. The AEC also reported that the

PLANNING

Trust Battle Won



The British Government recently refused to give the Bath City Council permission to compulsorily purchase Rainbow Wood Farm from the National Trust. The Trust is delighted with the decision, but Bath University of Technology has suffered. The council is now withholding part of the land it promised the university, so delaying its development.

gas does not contain hazardous amounts of radioactive debris. But the commission says that the results so far, though encouraging, are too preliminary to allow a final assessment of the commercial feasibility of the technique and the crucial six month production tests have yet to be started, but the fact that two more private groups have decided to risk the cost of projects like Gasbuggy are straws showing which way the wind is blowing.

NUTRITION

Americans and Englishmen

THE American Institute of Nutrition has honoured the work of two men of British extraction at its annual meeting in Atlantic City. Professor Hamish N. Munro of MIT received the 1969 Osborne and Mendel award, which is worth \$1,000. Professor Munro is distinguished for his work on protein metabolism. At the same meeting, Dr S. K. Kon of Reading University was nominated a fellow of the American Institute of Nutrition. He was one of the first to recognize the part played by vitamin A in the visual process.

ARCHITECTURE

Watch on High Buildings

THE Royal Fine Art Commission, the watchdog of public amenity in England and Wales, would like to see a firm policy for the control of high buildings in London. The commissioners, who include Mr John Betjeman, Sir Hugh Casson, Lord Llewelyn-Davies and Sir Basil Spence, say in their latest progress report (HMSO, 3s 6d) that there are increasing pressures on the local authorities in London for planning consent for buildings above what used to be considered normal height limits, and there has been a failure so far to establish any firm policy for Greater London on such consents. But they believe that there is an opportunity to do so, now that there is one authority (the Greater London Council) covering almost the whole area. They hope that definite guidelines will soon be agreed between the GLC and the borough councils. In some areas, the commissioners recommend that buildings above a certain height should be banned altogether. "They should indeed have been banned already in such areas as the surroundings of the central parks, St Paul's and Westminster Abbey, and the river bank between them." They regret the building of the three tall buildings around Hyde Park—at Marble Arch, in Park Lane, and at Lancaster Gate—and they say that unless there is a stronger expression of public opinion on this issue, there may be more. "This will result in a gradual hemming in of parks by a wall of high buildings such as can be seen around Central Park, New York, which consequently looks half the size it really is."

Along the front of the River Thames, the commissioners suggest that development be kept not only low, but also small enough in scale not to diminish the sense of space provided by the river, and they criticize the decision of the governors of St Thomas's Hospital to build an immense ward block immediately across the river from the Palace of Westminster. Although they say they were not in a position to dispute the technical reasons for rebuilding London Bridge at the