

tion of inventions that nobody else will look at, what arrangements there should be for channelling hopeful inventions within the public sector towards industry and then, quite separately, what arrangements should be set up within the Department of Trade and Industry for sponsoring industrial development—a question now in part at least answered by the setting up of the department's requirements boards.

In the event, Mr Docksey's proposals for change are hopelessly too formal. In his view, there should be a Development Council within the Department of Trade and Industry, with responsibility for overseeing the work of the NRDC and of another similar organization (to be established) but working exclusively with inventions produced within the government's own industrial research establishments. An essential part of the proposal is that the NRDC and its putative twin should be concerned only to demonstrate that an invention is potentially profitable. It would then be for the Development Council to make arrangements, usually in partnership with industry, to sponsor the further stage of development needed to turn the invention into a new product or process. The scheme has the merit of tidiness, and it is sensible to suggest that the NRDC should be dissuaded from the kinds of direct involvement in industrial enterprises typified by its work with hovertrains, but there are few other benefits in the arrangement.

Open Purse?

ONE way and another, the prospect for the British science budget is coming to seem increasingly bleak. So much can be told from the latest estimate of public expenditure in the next five years (*Public Expenditure to 1976-77*, Cmnd 5178, HMSO, £0.68) in an otherwise glad-handed document which records increases of public expenditure of £700 million in the current financial year (or 2.5 per cent) and £1,250 million in each of the two succeeding years. The total expenditure of the research councils, for example, is expected to rise from £137.7 million in the current year to £149 million in 1975-76, which sum includes the £27 million which will be then carried on the budgets of individual departments and which will be spent with the research councils only if those new-found customers decide that that is how it should be spent. Between 1975-76 and 1976-77, the science budget (exclusive of work commissioned by the departments) is reckoned to increase from £122 million to £126 million (at 1972 prices) or by 3 per cent. By any test, these estimates are gloomy.

The first thing to be acknowledged is that the budgets now proposed are probably too small to sustain the kind of work on which the councils are already engaged. In the next five years, the disposable income of the research councils will increase by £15 million, or by 13.5 per cent. (The White Paper, rapidly being converted into the next best thing to a forward economic plan, makes an intelligent distinction between costs at constant prices and those likely to emerge in practice, on account of the differential consequences of inflation for public and private expenditure.) Much of this extra money is, however, already bespoken. If, for example, the research councils are required to support a large proportion of the extra 7,000

postgraduate students at British universities five years from now, the cost could be between £3 million and £5 million a year. Then the contribution of the Science Research Council to projects in nuclear physics is certain to increase in the years immediately ahead, even if the rising cost of contributions to the 300 GeV accelerator is offset by economies at other accelerators. The budget of the Social Science Research Council is also likely to continue to increase by 10 per cent or so a year, which could mean an extra £3 million five years from now. On the face of things, the research councils will find themselves spreading substantially the same amount of money as at present over a substantially larger number of grant applications, especially if the burgeoning polytechnics become consumers on a more substantial scale.

This is why the government should be forced to answer at least one awkward question. The justification for the large increase of public expenditure in the next two years is the Keynesian argument (for even conservative governments are Keynesian now) that it is necessary to compensate for the present trough in the trade cycle. But is not spending on research and development as good a Keynesian remedy for recession as subsidies for the coal industry and the railways? Indeed, an increase of the science budget is on the face of things the kind of investment that could contribute enormously to the economy when the recession (if that is the name for the present despondency of British industry) is over. In short, the long-term decision which has been taken on research is unwise, not merely harsh.

100 Years Ago



Pollen-eaters

FROM a note in *NATURE*, Dec. 19, it appears that it has hitherto been a mooted question among entomologists whether any species of Diptera are pollen-eaters. I have often watched certain slender-bodied flies, belonging to or allied to the family of Noverers (*Syrphidae*), in the act of feeding on the pollen of various flowers, which they effected by a quick jerking and grinding movement of the mandibulae. I once witnessed the exhibition of a much more surprising taste by one of these insects, which, together with a small yellow ant, I watched for a considerable time feasting on a gout of resinous matter that had exuded from a wound in the bark of a spruce fir-tree.

Mention of ants reminds me of Mr. Meldola's statement (*NATURE*, vol. vi. p. 279) that Dr. Bree has pronounced their aphid-milking instinct a myth. While an undergraduate at Cambridge, I have more than once been a pleased spectator of this mythical performance; but Dr. Bree's incredulity may be explained by the fact that all ants have not this instinct. At least, though for many years constantly on the look-out for it, only one instance of it has come under my notice on this side of the Channel. On one occasion when I introduced an ant among a number of aphides, her first act was to seize one of them in her jaws; but after carrying it for a short distance over the backs of its fellows, she released it, and made what haste she could out of the company of creatures whose polite attentions she seemed by no means to appreciate.

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