

be suitably organized. And after the work has been carried out, it would be necessary to keep in being, by means of a continuing research grant, some organization for keeping the inventory up to date.

The first thing to say is that the outcome could be valuable. Everybody would benefit from tangible practical studies of this kind. (To say this is not to overlook the competence with which the Institute of Geological Sciences is at present able to answer particular questions on mineral resources which may be put to it.) Because the product of the research would have to be some kind of document, and because this would have to be delivered at some specified time, the cost of the work would be greater than under present arrangements, which assume that useful bodies of knowledge like this will arise from comprehensive programmes of research undertaken by the Institute of Geological Sciences. In negotiating the price, the research council responsible would be well advised to cater for the possibility that the task would turn out to be more difficult than it first appeared, and would also presumably include an overhead charge to cover part of the cost of such general services as geological mapping which the IGS must in any case continue. In short, whatever the objections to the Rothschild recipe which there may be—the strongest of which centre on the capacity of the Civil Service to ask sensibly pointed questions of the research councils—one unexpected benefit could be that spending on research by the research councils would be substantially increased. Is the government prepared for that?

In case the government's courage should begin to drain away, it would be best if it could be encouraged to reflect on the wider issue—the question of how much it would be wise to spend on basic research of the kind now handled by the research councils. The total cost at present is £125 million a year, but there is no reason to think that they would be unable to spend twice as much and, in the process, to double the value of their contribution to the public good. To the extent that the Rothschild recipe—and the government's hasty endorsement of the customer-contractor doctrine—represents discontent with the quality (in the sense of pointedness) with what they do at present, productivity (whatever that may mean) should even be increased. The result is that full-blooded application of the Rothschild recipe should be taken as a commitment to a substantial upward revision of the budgets of the research councils, taken as a whole.

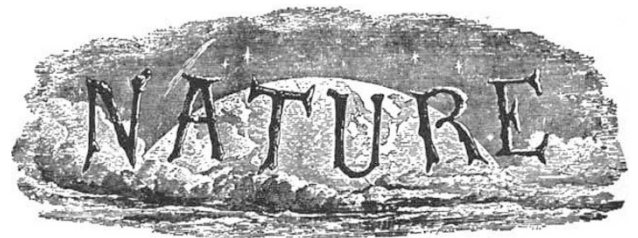
It is not difficult to see where the extra funds would go. It is inevitable that under present arrangements, the distribution of research council funds should be organized so as to spread what money that there may be among the money-spenders considered to be worthwhile. These arguments explain why the research council establishments are often less well equipped than would be comparable institutions dedicated to more explicit tasks. If the performance of the councils is in future to be determined by their performance on the projects which are specified by the contracts let to them, they will find themselves spending more on equipment and on outside services. The chances are that any economies which may be possible on manpower will be swamped by the necessarily greater cost of producing answers to well-chosen questions.

All this implies that the government cannot hope to push the research councils in the direction which the Rothschild reports points out without helping to support not merely the particular projects it may eventually

specify but the basic research without which sensible answers cannot be produced. It would in any case be a great mistake at this stage to dismantle the machinery for carrying out basic research which the research councils have been able to create. This, after all, is what most of the critics of Rothschild have been saying for the past few days, although, it must be acknowledged, those who have been attempting to argue, in the columns of the daily newspapers, that pure research whose pattern is determined by academic science is ineluctably beneficial have done as much to contribute to the case for change as any report from Lord Rothschild could.

But may it not be that Britain cannot afford such a large amount of basic research? That is a quite proper question. One of the weaknesses of the government's present position, for which Lord Rothschild is not to blame, is that the analysis which has been carried out of the place of basic research in British science policy has been innocent not merely of the needs of defence and of industry but of the opportunities for making better use of existing facilities within a European framework. Nobody would expect these deficiencies to be made good overnight, for the problems are teasing. But is that not another reason for asking that the first approach to Lord Rothschild's recipe should be a deliberate experiment in some field of research where the government departments might be expected to be able to ask sensible questions quite soon? That would give everybody time to consider the wider questions still unformulated.

## 100 Years Ago



### THE UNITED STATES DEPARTMENT OF AGRICULTURE\*

THE absence of a Department of Agriculture from the complicated scheme of British Government offices leads us to inquire whether it is possible for such a Department in the United States to publish annually eleven or twelve hundred pages of matter useful to the agricultural community, and whether those publications have any considerable circulation in the country.

The question of circulation is abundantly answered by a resolution of the House of Representatives passed on July 14, 1870 (the Senate concurring), which enacted, "That there be printed of the Annual Report of the Commissioner of Agriculture for 1869 *two hundred and twenty-five thousand extra copies*, one hundred and eighty thousand of which shall be for the use of the House, twenty thousand for the use of the Senate, and twenty-five thousand for distribution by the Commissioner of Agriculture." These figures are so startling in their magnitude that they seem to prove too much, until we recollect that the United States of America extend over an area proportionately enormous, including every gradation of climate, from the sub-tropical to the sub-arctic, and every variety of culture, from the cotton and rice of the south to the corn and roots of the north.

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