

Lord Rothschild and Industry

The following is an industrialist's view of the Rothschild and Dainton reports. The contributor is Dr E. Eastwood, General Electric Company Ltd.

IN January 1970, Mr Anthony Wedgwood Benn, then Minister of Technology, issued his green paper on *Industrial Research and Development in Government Laboratories*. This document proposed the setting up of a National Research and Development Corporation to provide unified management of the research resources locked up in government laboratories which could then be deployed for the solution of industry's problems—on a customer-contractor basis. These proposals found no support in industry which could see little advantage in a reorganization of government laboratories that failed to remove the burden of overcapacity.

The present green paper, *A Framework for Government Research and Development*, concerns itself with those aspects of government science not covered by its predecessor; will it be better received?

Of course it will be pointed out that it was not the purpose of this green paper to deal explicitly with industry's interest in government research and development. But at such a time as this, when the economy is in grave peril, it hardly seems appropriate for the paper to be so exclusively concerned with the restructuring of a portion of government science. For only brief mention is made of the research and development affairs of the Ministry of Defence or of the Department of Trade and Industry, although these two bodies absorb 72 per cent of the total departmental research and development expenditure. It is the research council system set up within DES in 1965 which receives closest examination. Expenditure under this heading is running at £109.5 million which represents 17 per cent of the total departmental research and development. It is suggested that £27.7 million of this £109.5 million can be identified as applied science of direct interest to user departments such as DHSS which should sponsor such work with the research councils (or elsewhere!) on a customer-contractor basis. It should be remembered that this invocation of "customer pressure" in user departments of state through control of applied research funds was also suggested in the green paper of 1970.

The Dainton report argues that evolutionary development of the present

well proven research council system will be sufficient to adapt it to modern needs. That user departments such as DHSS and SHHD should have some voice in framing the programmes of the Medical Research Council, for example, is recognized and to meet this need Dainton proposes that they should be represented on a new Board of the Research Councils. It is stated that the structure advocated "would enable the research councils to play a still more effective part in making progress towards national goals". Of all such goals, none can be more important than increasing the strength of British industry, but nowhere does the report show how this will be achieved by the approach to reorganization advocated.

Rothschild recognizes that science enters intimately and decisively into the affairs of most major government departments which he regards as customers for applied science effort, whether provided by the research councils or elsewhere. His report is based firmly on the principle that applied research and development has a practical application as its objective which is recognized and defined before commencement of the work—such work should be performed on a customer-contractor basis. "The customer says what he wants and pays for it—the contractor executes the project."

In industry most research and development is of the applied type with the operating company as the customer. The product that emerges has to be right in performance, price and timeliness if it is to succeed in the markets of the world. The user departments of government only partly fill this customer role; in particular, the market-place test of the product is lacking. Neither does the customer always know best what applied programmes should be mounted. Certainly he knows what he can afford. But the operating company in industry often chooses its product programmes from the various possibilities offered to it by the laboratories which have done sufficient research work to establish feasibility and the economics of development, production and application. The relationship between the DHSS and the MRC is likely to be much the same but if it is to be successful there must exist the strong Chief Scientist organization postulated by Rothschild and how is

this to remain effective if it is staffed by non-practising scientists?

The SRC and SSRC are excluded from the proposed new organization although a significant rider states that their activities will be "studied in due course". It is to be hoped that it will be borne in mind that a vital function performed by SRC is the postgraduate training of scientists and engineers. The maintenance of a supply of well trained men is probably the most important contribution made by SRC to industry rather than the output of university applied science handled by its boards, valuable though this work is.

It is difficult to withstand the logic of the Rothschild proposals but it should be noted that they do not spell out the criteria determining the amount of financial support to be given to civil science in the future. Rothschild's view, expressed in his Royal Society of Arts lecture of December 8, 1971, is that it is parliament's job to weigh the social desirability of science against other contenders for shares of the national purse—the clear implication being that the proportion devoted to science in the future would be reduced.

It is a strong criticism of both reports that they do not deal with the real problem facing the nation, which is to produce a healthy economy, and it is difficult to see how any of the proposals will benefit British industry. Government science is, apparently, to continue to be a heavy overhead. If the user departments are to be able to go to industry for the applied science services they require, as is implied in certain paragraphs of the report, then some useful purpose will be served—but not if industrial laboratories are to be subject to redundancy and government and university laboratories are not.

Rothschild is looking for a way in which the efficiency of government research and development can be maximized. To identify that part of the work which is "applied" and close to the industrial concept of applied research and development, and to organize it on similar customer-contractor lines, is sound sense and should be implemented even though it might apply only to a comparatively small part of the government's total expenditure on research and development. A successful precedent for such a sponsoring arrangement is the work placed by the MOD with universities, particularly in the field of electronics performed under the aegis of the CVD organization. This scheme is welcomed by the universities and much valuable applied science is performed in this way.