

new exhibits on African ethnology, primitive shipping, berries and twigs, British Lepidoptera for beginners and metalliferous mining in the Mendip Hills, and a new room devoted to Georgian costume as a contrast to the already popular Victorian room. The new Department of Conservation is proving its great worth and has a lengthy and interesting list of repairs completed, treatments accomplished, models made and exhibits prepared to its credit. Its organization has been greatly helped by the Works Laboratory of the Bristol Aeroplane Company—an interesting example of co-operation. Special reference is due to the work for schools, for which an additional assistant organizer has been appointed. Lessons in history,

biology, geology and geography are given to an ever-increasing number of classes, and it is gratifying to note that children from nearly one-third of all the junior and secondary schools in Bristol attend, while the School Loan Services, with a better collection than ever before of specimens, models and photographs, are used by more than 70 per cent of the schools in the Bristol area. Teachers in training in seven institutions visit the Museum to learn how best to use museum facilities in their future professional practice. At the other end of the scale, the Saturday Club continues to enjoy an enthusiastic membership of young naturalists aged 9–11 years.

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SOME PROBLEMS OF SMALL FIRMS

A SHORT report published by the Department of Scientific and Industrial Research gives details of one of the most encouraging services to industry carried out under its auspices*. It is a commonplace that the economic prosperity of Great Britain would be secure if a fair proportion of the many small firms and medium-sized firms could be brought up to a standard of efficiency equal to that of some of the bigger firms. One of the difficulties is that, hitherto, there has been an unbridged gap between research institutions with their store of valuable knowledge and the small and medium-sized firms who might well use this knowledge but lack trained scientists and technologists to guide them to it. This report describes the work of a technical liaison service which was organized in 1955–56 by the Scottish Council (Development and Industry), the broad purpose of which is to promote the economic development and well-being of Scotland. A team of three investigators, all men who had retired from responsible managerial or technical posts in industry, visited small and medium-sized engineering firms in the industrial belt of Central Scotland to find out what problems confront the smaller firms in the drive for greater efficiency and expansion; what equipment they possess for solving these problems for themselves; where to get help; and in what ways external sources could help.

During the survey the technical liaison service helped 109 firms, each with fewer than five hundred employees and with no elaborate management organization, to find solutions to 223 problems which they could not overcome with their own resources. Every interested firm was visited by a member of the team who helped to define each problem precisely and then to find a solution. Some questions could be answered on the spot from the member's own experience; the rest were referred to the Scottish Council's office in Edinburgh, where the technical co-ordinator of the project got in touch with the most likely sources of information.

The work of the experimental technical liaison service disclosed that:

(1) Firms in the survey were relying predominantly on trade contracts and other firms for information on new developments and techniques, and were accordingly in danger of operating within a closed circle.

* Small Firms with Big Problems: a Short Account of an Experimental Technical Liaison Service run by the Scottish Council (Development and Industry). Pp. lii + 24. (London: Department of Scientific and Industrial Research, 1958.)

(2) A few firms had ample technical resources, but most had few or none.

(3) Although many of the firms seemed to be attempting creative adjustments to new circumstances, only ten of them were managing to do so without introducing violent and disruptive changes. There were many reasons for this, but a predominant one was lack of technical information on which long-term plans could be based.

(4) Most firms were having difficulty in answering, from their own resources, some of the problems which affected their future plans; they discussed these with the technical liaison service.

(5) Half the problems had been previously abandoned, or were defined for the first time during discussions with the team, or with the staff of research and other organizations introduced by them.

(6) Answers to more than 70 per cent of the problems were found by the technical liaison service during the survey. The information required was in existence, but its sources unknown to, or unused by, the firms.

The outstanding success of the technical liaison service led the steering committee of the Scottish Council to recommend that a permanent technical liaison service should be provided; at first it would help small and medium-sized engineering firms, as the experimental service had done, but later it should be extended to other industries. The Committee indicated that the operation of regional schemes on these lines should be in the charge of the Department of Scientific and Industrial Research and suggested that the Secretary of State for Scotland should be asked if an official service could be provided. Meanwhile, the Committee felt that the service was so urgently needed that it should be run by a private Scottish institution until an official scheme could be established—preferably by an independent organization, like the Royal College of Science and Technology at Glasgow, since the experimental service gained much from the support of technical colleges and from easy access to technically qualified staff with industrial training.

The Scottish Education Department has recently authorized the expenditure required to set up a technical information service, on the lines proposed by the Scottish Council's steering committee, under the Department of Industrial Administration at the Royal College of Science and Technology, Glasgow. This extension of the Department's work is largely experimental and will be revised in not more than three years.