

tions to the subject of the Conference. But the result, we think, was very unfortunate. Naturally, we welcomed the entirely different atmosphere of the British Association's Conference on Scientific Research and Industrial Planning in December 1945, at which there was freedom for anyone to speak. The views that dominated the 1941 meeting no longer dominated that of 1945. On controversial as on all other matters which vitally affect the welfare of science, the British Association should provide an open forum, and we are glad to believe that this is its constant aim.

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¹ *Nature*, 158, 574 (1946).

Research and the Smaller Firm in Britain

IN *Nature* of November 2, p. 638, an account was given of the recent conference held in Manchester under the auspices of the Manchester Joint Research Council. This article gives a misleading account of my paper.

The references to the Mellon and Battelle Institutes give the impression that I am opposed to the operating principle of these institutes in all circumstances. What I did in my paper, after giving as impartial a survey as I could of the advantages and disadvantages of their methods of operation, was to give reasons why I doubted if a "Mellon Institute" is the solution in Great Britain to-day of the problem of research and the small firm. The fact quoted in the article that "... the Mellon Institute is largely supported by the large firms" rather than by small ones was in fact used by me in support of my argument.

The most serious misrepresentation occurs at the end of the first paragraph: "Dr. Toy's paper indicated concern as to the future of the research association in Great Britain and its ability to win the confidence of the industry it served". This question of confidence was not directly under discussion in my paper, but I may state here quite categorically that I feel no such concern: and I am not aware of any such indication in my paper.

On the specific point of *confidential* research for the smaller firm, I gave reasons why I thought the idea of doing research confidential to one firm in the research association's laboratories, *using research association personnel*, did not seem to be a really workable scheme. It clashes with the primary principle of the research association movement that research should mainly be on an industry-wide basis, and for the benefit of the industry as a whole; and it also involves the danger that the research man might find himself in the impossible position of having to carry out confidential research for a firm, and general research for the industry on the same or related subject. I said I doubted if a firm could do better than carry out confidential research on its own, and that even a small firm could do something worth while if it had the right outlook and the right man. I was also at pains to show that the problem of research and the small firm was made much easier nowadays due to the existence of the research associations, with their unequalled knowledge of the industry and its problems. In particular, two illustra-

tions of this were given. A firm wishing to set up a research department of its own could call on the research association for help and advice on such matters as staff, equipment, etc. Alternatively, a firm not yet prepared to go so far as to set up its own research department might, I thought, be accommodated at the research association, which would supply material facilities, such as space, equipment, library and so on; supplying, in fact, many if not all the advantages of the "Mellon" system, except the staff, which in my view should be in the employment of the firm.

At the end of the article, when summarizing what Sir Edward Appleton said, occurs the following sentence: "When facilities and staff are available, the Department of Scientific and Industrial Research will be prepared to assist a small firm by arranging to carry out special investigations into specific problems, although it is not possible to offer the same facilities as the Mellon Institute or the Battelle Institute—a statement which appears to conflict with Dr. Toy's remark that the research associations themselves are not encouraged to undertake work at cost for an individual firm". The "conflict" between the two statements is more apparent than real. The hesitancy of the research associations to undertake confidential work is due to the danger to which I have already referred. This danger—quite acute in a research association limited to a single industry—would be much less and possibly non-existent in a central government laboratory operating in a much wider field, though even in this case Sir Edward did not promise "the same facilities as the Mellon Institute".

Thus there is no conflict of ideas in the suggestion that the Mellon principle, while not really workable in a research association, might *in principle* be quite feasible in a central government laboratory. Whether this is desirable is quite another matter. My own view is that the smaller firms would not make any more use of a Mellon Institute in Great Britain than they do in the United States.

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The Thyroid and Tuberculosis

THE results quoted by Izzo and Cicardo in their communication¹ on this subject are of great interest to us as we have had somewhat similar animal experiments under way for some time.

Izzo and Ricardo seem, however, to have misread my letter, as they state that Burger and his associates found diploicin to possess tuberculostatic activity *in vitro*. It was clearly stated by me² that diploicin is insoluble, and accordingly was not subjected to *in vitro* tests. The substances tested were prepared by opening the depside ring, thus solubilizing the diploicin molecule. These substances were prepared in this laboratory and tested by my colleague, Dr. P. A. McNally, in Trinity College, Dublin.

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Oct. 28.

¹ Izzo and Cicardo, *Nature*, 158, 590 (1946).

² Barry, *Nature*, 153, 131 (1946).