

On the other hand, he was a real conservative, educationally and otherwise. He did not believe in change for change's sake. He had little use for some modern educational ideas—for science taught without mathematics, and literature without languages. His interest in literature and art was second only to his interest in science. He also possessed excellent administrative ability, which he generously gave to the many scientific organisations to which he belonged, such as the National Research Council of Canada, the Nova Scotia Research Foundation, and the Nova Scotian Institute of Science, of which he was a past president.

Prof. Henderson's place in physics in Canada cannot easily be filled. His great intellectual ability, his unusual discrimination and his modesty won for him the respect and esteem of all who knew him. He permitted his love for his profession to interfere with the proper regard for his health. His untimely end is a sad loss to Canada. On the day of the funeral service at Halifax, not only were the University flags at half-mast, but so also were those of all the ships and establishments in the Atlantic Command of the Royal Canadian Navy. J. H. L. JOHNSTONE

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### Prof. Elton Mayo

THE recent death of Elton Mayo, until his retirement professor of industrial research in the Harvard School of Business Administration, is a great loss to the social sciences. 'Social sciences' is used advisedly in the plural, because Mayo's qualifications and his main work lay in the borderland between economics, social psychology, psychiatry, social anthropology and, to some extent, political science. The experiment at the Hawthorne Works, Chicago, of the Western Electric Co., for which he and his team of collaborators are so justly famous, not only integrated several divisions into which the study of man has threatened to split, but also shifted the emphasis. As I wrote, when reviewing one of the publications of this team, "the general argument of the authors may fairly be summed up in the two propositions that psychological factors are more important than physiological, and that sociological and anthropological factors are more important than economic".

Elton Mayo was himself quite conscious of the new emphasis. In his brief "Social Problems of an Industrial Organisation", published in 1945, he made the point that: "the ordinary conception of management-worker relation, as existing between company officials, on the one hand, and an unspecified number of individuals, on the other, is utterly mistaken. Management, in any continuously successful plant, is not related to single workers but always to working groups. In every department that continues to operate, the workers have—whether aware of it or not—formed themselves into a group with appropriate customs, duties, routines, even rituals; and management succeeds (or fails) in proportion as it is accepted without reservation by the group as authority and leader".

Mayo can be reckoned as one of the forces which, together with anthropology, is putting sociology back on the map; indeed, Mayo's approach was partly that of the anthropologist. He differed from previous investigators in the industrial field in studying a small face-to-face group intensively and 'all round'. One of his pupils, North Whitehead, wrote a 450-page

book about half-a-dozen girls, and in his "Management and the Worker" another pupil, Prof. Roethlisberger, devoted 150 pages to a group of fourteen bank-wirers.

But Mayo did not, to his credit, rely on one approach. He and his team also used the mass interview, with statistical measures to give summary generalization.

These mass results were not mechanically interpreted. Mayo used statistics as a box of tools, and only as *one* of his boxes of tools, and the answers were treated as psychiatric data rather than as a record of facts about the factory organisation. In his first book on the Hawthorne inquiry, "The Human Problems of an Industrial Civilization", published in 1933, Mayo has a most illuminating chapter on the "Measuring of Morale", in which he stresses the importance in factory life of minor forms of obsessive thinking. "Janet's demonstration of the mentally shattering effect of an experience of personal incapacity seemed to provide a possible clue to a better interpretation of the distorted statements about persons in many interviews." This psychological insight into the mass answers, together with the intensive observation of the small group, led Mayo and his colleagues in the subsequent course of their inquiry to discover the differing worlds of thought prevailing in a factory at different levels—a most important discovery wherever productivity per man is affecting the standard of living. For it appears to be particularly the workers at the spear-head of production who do not care about production. One rule in the Hawthorne bank-wirers' code of thought and conduct was not to work too hard—not to be a 'rate-buster'.

Mayo's important conclusions are put forward in his books and articles and in those of his pupils in an easy style, full of delightful quotations out of the workers' own mouths; and, for those who had the pleasure of listening to Mayo, as I did as recently as last winter, his quiet reminiscent style was captivating. But his books are far from mere anecdote. A system of thought embodying his many-sided approach is implicit and often explicit in his work.

P. SARGANT FLORENCE

WE regret to announce the following deaths:

Mr. William Binnie, past president of the Institution of Civil Engineers, on October 4, aged eighty-two.

Prof. Major Greenwood, F.R.S., emeritus professor of epidemiology and vital statistics in the University of London, on October 5, aged sixty-nine.

Dr. A. P. Laurie, formerly principal of the Heriot-Watt College, Edinburgh, and professor of chemistry to the Royal Academy of Arts, on October 7, aged eighty-seven.

Mr. C. E. Muriel, conservator of forests (Bengal) during 1910-16, on October 5, aged eighty-eight years.

Dr. E. W. Posnjak, formerly of the Geophysical Laboratory, Carnegie Institution of Washington, on August 5, aged sixty-one.

Prof. Edwin B. Powers, professor and head of the Department of Zoology, University of Tennessee, known for his work on the physiology of fishes, on August 26, aged sixty-nine.

Dr. Frank Thone, biology editor of Science Service, Washington, D.C., which he joined in 1924, on August 25, aged fifty-eight.