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## Historical article

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# Fifty years ago: Lancelot Hogben reviews Bradford Hill

### BOOK REVIEW

(*British Journal of Social Medicine*, Volume II, 1948 p43, British Medical Association, London.)

**Principles of Medical Statistics.** By A. BRADFORD HILL, Fourth Edition: 1948. London: *Lancet*. Pp. 252. (Price 10s. 6d.)

The appearance of a new edition of Professor Bradford Hill's manual, after three reprints of the third during the war years, is at once an indication of its successful appeal to the audience for whom the author wrote it and of a growing interest in the use of statistical methods as a tool of medical research. Its success is the more noteworthy in view of the fact that few medical schools as yet make provision for instruction of this sort as part of the undergraduate curriculum.

In the phraseology of the times, the author's aim is essentially operational. His target is to show the medical specialist without sufficient mathematical facility to appreciate their rationale, the use of statistical techniques tests to forestall unjustifiable conclusions from insufficient data and to correct unnecessary caution where confidence is permissible. Within the compass of this programme he has accomplished his task with singular lucidity. Its success owes much to a direct and unaffected style which makes for painless reading.

At a more sophisticated level of exposition, the book owes much to well-chosen illustrations of the use of elementary principles of probability. If one may regret the limitation the author has imposed on the treatment of his theme by refraining from explanations which would have made an elementary treatise a bulkier and more costly undertaking, it is one of the merits of this book that he eschews the temptation to prescribe methods the credentials of which very few research workers can hope to understand. The rationale of methods to which he does introduce the reader with little mathematical facility is within the reach of the many who will discover an unsuspected appetite for greater proficiency by digesting the fare the author offers them. Indeed one of the praiseworthy features of this book, and one which distinguishes it from so many others of its sort, is that it is unpretentious in the best sense of the term. One might illustrate this by contrast in more ways than one; but one will suffice.

There is an all too prevalent fashion among writers of elementary manuals on statistical methods to expound the latest and the least well-tryed without due regard to their semantic credentials, to the limitations which those responsible for the introduction have themselves emphasized, or to the likelihood that those who apply them can ever hope to evaluate the validity of the assumptions on which they rest. In particular, it is an occasion for cynical reflection that disciples of Professor Fisher have so often chosen to overlook his own priority in recognizing that the  $\chi^2$  test for one degree of freedom and the normal difference test for a proportionate score as prescribed in Bradford Hill's book are numerically (as well as formally) identical. The modest common sense which prompts the author to refrain from introducing methods which rely on more sophisticated mathematics when methods which are relatively simple to grasp serve the same purpose is the more commendable because he addresses himself to students whose curriculum is already overburdened with authoritarian instruction.

The same common sense pervades three wholly admirable chapters devoted to discussion of common fallacies and errors. The insertion of these is no less a service to the professional statistician than to the medical student. In truth, due recognition of what statistical theory can contribute to the advance of medical science has been too long delayed by a lack of realism characteristic of many contributions which professional statisticians made in the early years of our century to anthropometry and medical sociology. The foreword appropriately recognizes a change of outlook which has come about since early controversies in *Biometrika* wrought so much discredit to statistical theory among medical men with their feet on the solid ground of experience. Statistics no longer needs to assert its credentials by tendentious manipulation of social data discouraging to the programme of social medicine. Medical research workers themselves recognize the value of statistical techniques to validate the conclusions suggested by their own observations.

LANCELOT HOGBEN

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## Comment on Hogben's book review from 1948

A foray into the *British Journal of Social Medicine* (the old title of this journal) of 50 years ago has brought about a happy conjunction of two contemporaneous great names: [Sir] Austin Bradford Hill (1897–1991) and Lancelot Hogben (1895–1975). Hill will be well known to readers of this journal; his profound influence on the underpinning of scientific medicine was documented with affection by another contemporary, Sir Richard Doll.<sup>1</sup> Hogben is perhaps less well remembered but no less interesting. He comes to our attention because half a century ago he was co-editor of this journal. The link with Hill is Hogben's review of the third edition of Hill's book *Principles of Medical Statistics* in Volume 2. This is reproduced in full above. In Volume 50 we take the opportunity to say a little about Hogben and to comment on some issues arising from the review which still seem pertinent today.

Lancelot Hogben trained as a zoologist and at an early stage in his career developed an interest in mathematics.

His first appointment was as lecturer in zoology at Birkbeck College London (1917) but in the same year he moved to the Royal College of Science where he worked on chromosome cytology. In 1922 he became deputy director of the Institute of Animal Genetics in Edinburgh. After two years in Canada starting in 1925, he went to Cape Town University to become professor of zoology. Although in Africa for only about three years, this was a fortuitous appointment, for at that time Hogben had an interest in colour changes and metamorphosis in amphibians. His researches on *Xenopus*, a local toad in Cape Town, led to the Hogben pregnancy test. In 1930 he was back in England as professor of social biology at the London School of Economics where he remained until 1937 when he became regius professor of natural history in Aberdeen. By 1941 he had moved again and became Mason professor of zoology at Birmingham University. From 1944–46 he was acting director of medical statistics at the War Office in