The Art of Scientific Investigation. By W. I. B. Beveridge. Second edition. (Pp. xii + 176; illustrated. 10s. 6d.) London: William Heinemann Ltd. 1953.

A second edition of this admirable book will be welcomed by anyone who wants to understand the mental attitudes and processes by which scientists have made their great discoveries during the past three centuries. The author is Professor of Animal Pathology at Cambridge and his own experience of biological research gives the book a strong bias towards this and neighbouring branches of science, although he also quotes the views of eminent physicists and mathematicians. His purpose is to summarize and systematize what has been recorded of the mental skills required for scientific research by analysis of the methods that successful investigators appear to have employed. He is not concerned with the logic or philosophy so much as the psychology and practice of research. Nor, of course, does he discuss technology except to admit the necessity for technical training in most branches of science.

The picture of scientific method that emerges may surprise those who have neither known scientists personally nor studied their biographies, but who have learnt their science from lectures, textbooks, and published papers. In such presentations, experiment appears to lead inexorably to hypothesis and so to further experiment, and the ultimate conclusion appears to be reached by a course of immaculate logic. The actual course of

discovery is actually quite different. The chance observation of an astute observer or the leap of intuition leads to an hypothesis that can be put to experimental proof. Many false hypotheses may be rejected on the way to the discovery of the truth. The final account of the success conceals the false trails that led Kelvin, for instance, to describe his efforts for the advancement of science during 55 years by the one word "failure".

Among the characteristics essential for research, the author includes insatiable curiosity, powers of observation, freedom from prejudice, and determination. The necessary conditions are leisure for thought, opportunities for observation, experiment, reading, and discussion.

The strategy and tactics of research, the difficulties that may be met, and the rewards that may be found, are all described with ample illustrations from the experience of scientists. Every young research worker should read this book and anyone attempting research, on whatever scale, will find wisdom and encouragement here.

It is an impressionistic sketch rather than a philosophic treatise and it has a slightly disjointed style, which no doubt reflects the original jottings from which the author admits it was compiled. Whether it is dipped into, or read consecutively, it will be greatly enjoyed and will help and interest a lot of people.

C. M. FLETCHER

THE JANUARY (1954) ISSUE

The January (1954) issue contains the following papers:—

ϵ -Caprolactam. By M. W. Goldblatt, Muriel E. Farquharson, Geoffrey Bennett, and Beryl M. Askew.

The Reaction of Rats to Diets Containing Octamethyl Pyrophosphoramidate (Schradan) and 00-Diethyl-S-Ethylmercaptoethanol Thiophosphate ("Systox"). By J. M. Barnes and F. A. Denz.

Sickness Absence before the First Clinical Episode of Coronary Heart Disease. By J. A. Heady, J. N. Morris, F. J. Lloyd, and P. A. B. Raffle.

Pilot Trial of an Antihistaminic Drug in the Control of "Teteryl" Dermatitis. By W. A. Bain and Grizel H. Thomson.

Perforation of the Nasal Septum due to Soda Ash. By R. McL. Archibald.

The Effect of the Drinking Pattern on Water Economy in Hot, Humid Environments. By R. A. Kenney.

The Mill Reek and the Devonshire Colic. By Andrew Meiklejohn.

Miscellanea:

Beryllium Granuloma of the Skin. By Henry Lederer and John Savage.

First Conference of the British Occupational Hygiene Society
Occupational Hygiene in Great Britain. By Thomas Bedford.

Measuring the Workers' Environment. By S. A. Roach.

The Problem of Chemical Toxicity. By D. G. Harvey.

Occupational Hygiene and the Industrial Designer. By J. E. Braham.

Book Reviews.

Abstracts.

A number of copies are still available and may be obtained from the Publishing Manager, British Medical Association, Tavistock Square, W.C.1, price 12s. 6d.