Press, the first volume having appeared in 1899 and the final one, posthumously, in 1920. Rayleigh made an amusing comment in connexion with the publication of the first volume: "When I was bringing out my *Scientific Papers* I proposed a motto from the Psalms, 'The works of the Lord are great, sought out of all them that have pleasure therein'. The Secretary to the Press suggested with many apologies that the reader might suppose that *I* was the Lord." This, no doubt, is the reason that, while the scriptural quotation is used, it appears not on the title page but in isolation on a separate page just before the first paper.

The atmosphere of the great age of classical physics to which these papers pertain may be recalled by reference to the name index which appears at the end of the final volume. Citations, merely page numbers, of Stokes occupy 13 lines, of Maxwell 12, of Kelvin 11, of Helmholtz 9, of Lamb 7 and of Airy 5 lines—a formidable company.

These collected papers are still constantly used for reference, since, among other things, when Rayleigh had written at length on a subject he had, in general, tidied it up and left it in a state clearly recording the position at the time. One can scarcely do better than quote J. J. Thomson's pronouncement: "While most collections of scientific papers rest undisturbed on their shelves, and are monuments, rather than parts of one's working library, there are no books I refer to so frequently as Rayleigh's collected papers. His papers deserve the description, which Maxwell applied to those of Ampère, as being 'perfect in form and unassailable in accuracy'. The style is very clear, so clear in fact that the reader may not realize how difficult the problem was unless he had attacked it himself before reading the paper".

The original issue of the *Scientific Papers* has, with the exception of Volume 6, been out of print for some time. Fortunately a re-issue of the six volumes, bound in pairs so as to make three books, has recently been published at a very reasonable price. The text would appear to have been reproduced by a photographic process, since whenever a page has been compared with the original the two are exactly the same. However, the introduction states that the edition is an unabridged and corrected republication of the work first published by the Cambridge University Press, which would seem to imply that there have been changes, if minor ones.

This new edition contains an interesting supplement of photographs pertaining to Rayleigh's life—portraits, pictures of his laboratory, of pages from his notebook, and so on. A great improvement could have been effected by the provision of a serviceable index. There is a name index, which suffers, as is so often the case, from a lack of the slightest indication as to what is in question under each of the large number of pages listed under a given name; more than a hundred, for example, in the case of Maxwell. There is no subject index at all, unless the list of titles of papers, grouped under twelve different headings, such as "Mathematics", "General Mechanics", "Elastic Solids", and so on, can be so called. This list, however, is not very useful if one desires to find quickly what Rayleigh has written on a particular subject: thus the only references to argon are in the titles of certain papers listed under the heading "Properties of Gases", but there is no indication that the viscosity of argon is considered in papers listed under "Dynamical Theory of Gases". Possibly the publishers will contemplate adding to the value of this welcome reprint by issuing in a small supplementary volume a detailed index giving not only a properly classified subject schedule but also a name index with some indication as to what, to take an example, is concerned in each entry under the name Maxwell. The preparation of such an index, which would require considerable knowledge and study, might possibly qualify a student for a degree in the history of science.

E. N. DA C. ANDRADE

A ROUTE MAP THROUGH THE SPECTRAL LABYRINTH

Atlas of Steroid Spectra

By W. Neudert and H. Röpke. Translated by J. B. Leane. Pp. viii + 471. (Berlin, Heidelberg and New York: Springer-Verlag, 1965.) D.M. 144.

THE advent during recent years of various sophisticated, physical techniques, as an adjunct to structural investigations in organic chemistry, has led to its own special problems. In particular, the data thus accruing are frequently very difficult to locate in the literature and, for a variety of reasons, are often of doubtful comparative value for the identification of closely associated compounds.

Nowhere is this problem more acute than in the vast literature appertaining to the steroids. The *Atlas of Steroid Spectra* is a gallant and monumental attempt to bring some rationale into an otherwise confused situation. The production of this weighty (in both senses of the word) volume was undertaken because the majority of existing steroid spectra originated from various sources, and therefore could not be compared with each other directly. The great merit of this volume, which has been produced with typically Teutonic attention to detail and accuracy, is that it records the spectra of 900 specially selected steroids. The samples were prepared under directly comparable conditions and the spectra measured on the same instrument in order to ensure that the results are directly comparable. The information recorded in this *magnum opus* has been accumulated during the past twelve years, which the authors have spent in the structural investigation of steroids.

The first section includes the infra-red spectra and other relevant physical data, such as molecular weight, melting-point and characteristic ultra-violet absorption maxima for 900 steroids. Then follow various typical ultra-violet absorption curves for 41 representative steroids. The third section records the nuclear magnetic resonance spectra of 95 steroids. The remainder of the book consists of chapters concerning the relevant theory and the methods by which these various spectral determinations may be performed, together with a veritable wealth of associated information such as, for example, the effect of temperature on spectra. The final section of the book contains the basis of a versatile catalogue system for recording the detailed spectral information.

A most useful feature of the *Atlas* is that the German text has an English translation alongside.

This book is essentially a handbook or dictionary, which will serve as a most valuable reference work for all research laboratories. By nature of its size, price and content, it is scarcely likely to appeal to the individual purchaser. A particularly noteworthy feature of this *Atlas* is that it is based entirely on work carried out in the laboratories of an industrial company, namely, Schering *A.G.* (Berlin). Its authors, to whom all steroid chemists owe an immense debt of gratitude for their painstaking effort, are also employed by the same company.

This book maintains the extremely high standard which has been established by its publishers. W. B. WHALLEY

RADIOACTIVE TRACER TECHNIQUE IN BIOLOGY

Radiotracer Methodology in Biological Science

By C. H. Wang and D. L. Willis. (Biological Science Series.) Pp. xvii + 382. (Englewood Cliffs, New Jersey and London: Prentice-Hall International, 1965.) 96*s*.

RADIOTRACER Methodology in Biological Science is an excellent book. Radioactive tracers are commonplace and indispensable in research laboratories, but their