proximations should prove helpful to the experimental physicist, even though the arguments are sometimes rather tenuous. The importance of the stripping reaction in nuclear spectroscopy is clearly delineated, as is the relation of nuclear stripping radii to those found by other measurements. The experimental physicist will undoubtedly miss comparisons between theoretical predictions and experimental results; these are given for illustrative purposes in only a few instances. It is not clear, for example, that the simple theory ("stripping approximation") agrees with experiment even when the conditions for its applicability are met.

The book in general is somewhat marred by too many errors that should have been caught in editing or proofreading, as well as by the absence of an index. Nevertheless it is a valuable reference for a thorough discussion of the deuteron stripping reaction in nuclear physics.

Experimental Crystal Physics. By W. A. Wooster. 115 pp. Oxford U. Press, New York, 1957. $2.90. *Reviewed by R. Smoluchowski, Carnegie Institute of Technology.*

The book is a brief but complete description of numerous interesting basic experiments any of which could be performed in about two hours in a college course on practical crystal physics. It is not a survey of the field, as indicated in the title which is somewhat misleading. The book will be of great value in undergraduate physics teaching.

La Création Scientifique. By Abraham A. Moles. 237 pp. Editions René Kister, Geneva, Switzerland, 1957. Paperbound. *Reviewed by R. Bruce Lindsay, Brown University.*

This interesting book is a study of the psychology of scientific discovery in the spirit of two other fairly recent French works which have already been translated into English, viz., Jacques Hadamard's *The Psychology of Invention in the Mathematical Field* (Princeton University Press, 1945) and R. Taton's *Reason and Chance in Scientific Discovery* (Hutchinson, London, 1957). The author is a well-known French acoustical physicist (incidentally a member of the Acoustical Society of America) and Chargé de Recherches au Centre National de la Recherche Scientifique in Paris. This contemporary concern in France with the fundamental nature of the process of scientific creation is not surprising in view of the celebrated earlier work in this same field by such noted authorities as H. Poincaré, P. Duhem, and C. Nicolle. It is the aim of M. Moles to present a systematic as well as a comprehensive survey of the present status of thinking on this subject. In the reviewer's opinion he has succeeded admirably within the limits of the space at his disposal.

What is meant by the psychology of scientific creation? It is not a logical study of the concepts and methods exhibited by science as we find it set forth in

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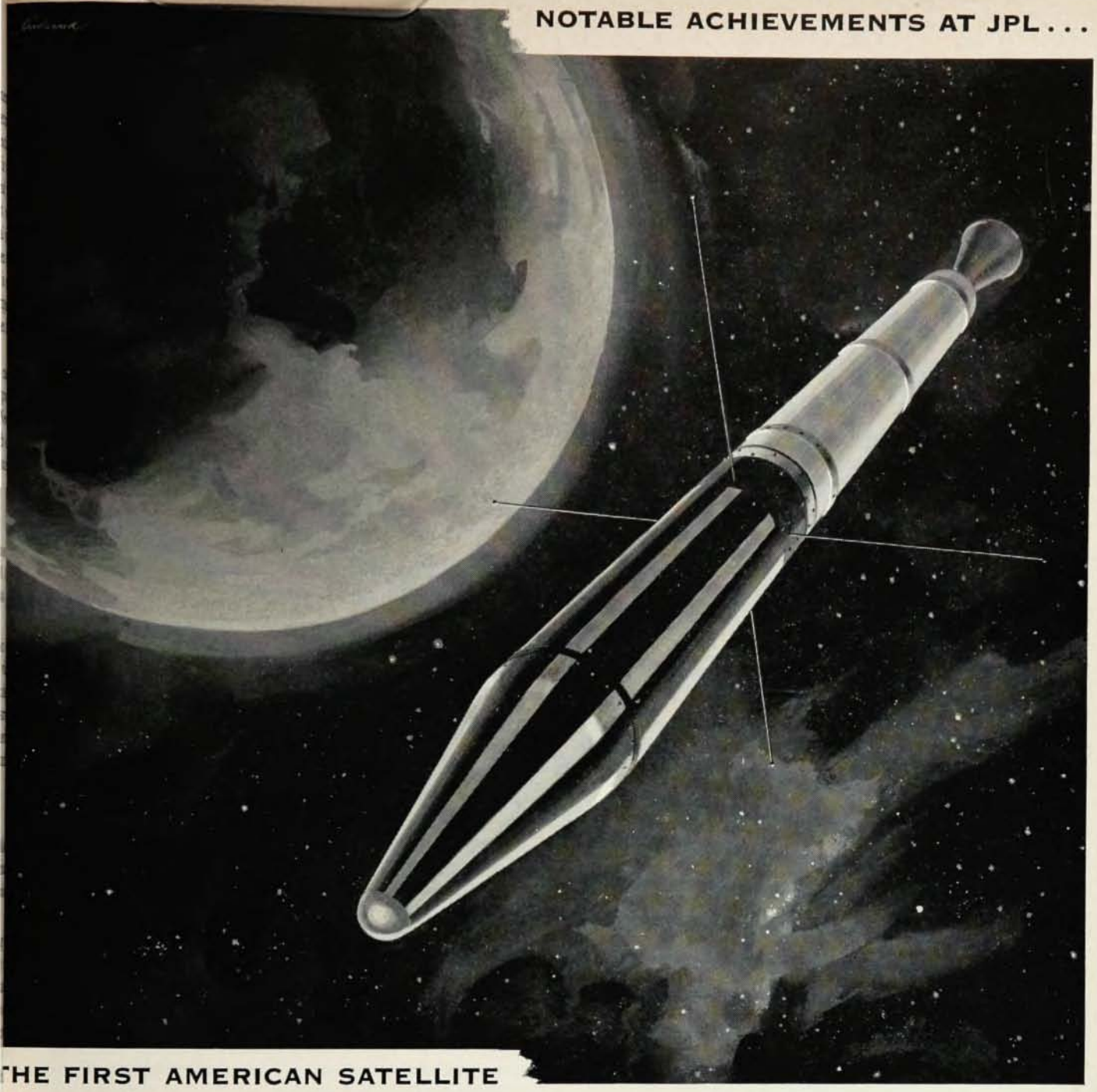

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treatises, a finished product; it is rather a study of the peculiar ways in which scientists go about making discoveries and creating theories. Unfortunately, too few scientists have ever taken the trouble to make clear in detail precisely how they came upon their clever ideas and why they proceeded as they did; by the time their material gets digested in the standard texts, all traces of its psychological origin have vanished. No one can doubt that this state of affairs is a decided handicap to the young student of science. We have here a realm with very practical significance both in education and in the research laboratory.

The author begins with an introductory summary of the relation between modern science and philosophy from the standpoint of such developments as the trend from determinism toward indeterminism in scientific theories. He then embarks on his psychological analysis proper, beginning by stressing the great difference just mentioned between science as a finished structure and science in process of creation. The next few chapters are devoted to a study of what may be called heuristic methods in scientific discovery; such as, for example, the use of curiosity and free imagination, and the use of diagrams as well as the dogmatic introduction of hypotheses not suggested by anything in experience, followed by the search for something in nature with which they may be identified (the philosophy of *Why not?*).

Everyone knows that processes not strictly within the confines of formal Aristotelian logic have often proved useful in scientific creation. So the author pays considerable attention to what he calls "infralogical" modes of thought, of which the free use of analogy is a good example. The effect of the researcher's own philosophy of life and the influence of his social environment on his methods are also examined in the final chapters. All points are amply illustrated, mainly from mathematics and the physical sciences.

At a time when physicists are debating the relative merits of individual and team research in the advancement of their subject, a careful reading of M. Moles' book is heartily to be recommended for its suggestive and stimulating treatment of the whole problem of the creation of physical science.

Nuclear Power Reactors. Edited by James K. Pickard. 388 pp. D. Van Nostrand Co., Inc., Princeton, N. J., 1957. $8.50. *Reviewed by E. Richard Cohen, Atomics International.*

The Geneva Conference on the Peaceful Uses of Atomic Energy held in August 1955 compressed into twelve days the distilled experience of more than twelve years. It is therefore not surprising that the proceedings of the conference consist of 16 large volumes. These proceedings contain not only the formal papers submitted to the conference, but also the oral presentations and the discussions which followed. (Only a third of the papers could be presented orally in the sixty odd sessions.)