

of course, on what you mean by "experience".

The emphasis throughout is to be kept away from the information content of the papers so that it can be focused on the activities of scientists in getting the information. Students should "go through the acquisition of the insights by the working scientist" (p. 35). Success is claimed in getting classes to propose new experiments. But is the method really superior to Yudkin's suggestion of laboratory-based investigation of much more elementary problems? Or to the historical case study method developed at Harvard by Conant, which is dismissed quickly and quite unfairly?

Epstein admits that some of the success of his courses might be attributable to small classes and to a sort of Hawthorne effect, enthusiasm generated by sheer novelty. His own enthusiasm may have carried him over the edge of objectivity. The honour grades attained by most of the students are used as evidence of success: dubious evidence, given that the suggested basis for grading is that those who "participate at all actively are likely to be given honour grades", while "attendance at the majority of class meetings will almost surely suffice for passing the course" (p. 44).

Some of the limitations and drawbacks of the approach are obvious enough. Balance and breadth may well become a matter of pot-luck. There are as many different courses as there are teachers. From them, the students are expected to acquire something about the strategy and the tactics of the activity called science—presumably in a tacit form, for Epstein does little to make it explicit. The method is intended chiefly, though not exclusively, for short courses not leading on to further work in the subject. Examples are given of its use in biology and economics—but what about fields like organic chemistry or electromagnetism? "The screening of potential instructors was mainly on the ability to feel comfortable when making up relatively superficial explanations for matters that could not be clarified on the basis of readily describable experiments" (p. 29). Eyebrows will be raised—and not only in the more exclusive Black Paper circles—at the sort of explanations that arise. How much of this is education, and how much is facile titillation?

There is plenty of scope here for withering sarcasm from the experts—but the fact remains that Epstein has shown that the approach can be made to yield stimulating educational experiences. Gentle reader, why not try it? Is there really much to lose? Attempts to teach non-specialists have fundered all too often in the past on

criticisms by fellow specialists. Much harm has been done thereby to education. Better, perhaps, to play for a change to the gallery of students rather than the gallery of professional colleagues.

F. R. JEVONS

Memoir of Early Science

Simon Stevin: Science in the Netherlands around 1600. By E. J. Dijksterhuis. Pp. vii+145. (Martinus Nijhoff: The Hague, 1970.) 27 guilders.

THE appearance, after a delay of some years, of the late Professor Dijksterhuis's book on Simon Stevin is indeed a welcome event. Stevin, who was born at Bruges in 1548 and died in Holland in 1620, was for over forty years a dominant figure in northern European science, mathematics and technology. Though he does not rank as one of the giants of early modern science, he was an important and influential figure for a variety of reasons. This first substantial monograph on him in English should do much to enhance his reputation and to make his contributions better known not only to historians of science but to other interested readers as well.

Like all of Dijksterhuis's work, *Simon Stevin* bears the stamp of authority and competence. It was originally written as an abbreviated version of his Dutch work of the same title. Being written in Dutch and published during the war (1943) that work has had, understandably, little diffusion. At Dijksterhuis's death in 1965, the condensed English version was nearly ready for publication. It has now been brought through the press by R. Hooykaas and M. G. J. Minnaert. The volume is certainly an excellent introduction to Stevin's life (of which very little is known) and scientific work, but although said to be "adapted to the educated, non-specialist reader" it is still somewhat technical in parts. It seems to me to suffer from being overly condensed. Dijksterhuis certainly had an intimate knowledge of Stevin's works and could easily have written a book of twice or three times the length. This would have made it somewhat more accessible to the non-specialist and would have allowed the author to expand on some of the many fascinating topics which he has been able to treat often only in the most sketchy fashion.

All things considered, however, the book is an excellent general introduction. The appetites of many readers should be whetted by it, and they can now dip into Stevin's own writings just recently available in an excellent critical edition with English translation (published in Amsterdam, 1955-66, in five volumes). One is struck in reading this

volume by the remarkable range of Stevin's interests and attainments. Not only did he write on mathematics, mechanics, and navigation, subjects in which his contributions are well known, but on many other topics as well, including architecture, music and city planning. It is interesting to compare his work with the perhaps more highly developed Italian science of the period. If some ideas of Benedetti, for example, come to him through Taisner, in other matters, his experiment with falling bodies (1586), say, he seems to have been in advance of the Italians. Stevin was also among the earliest to write important scientific treatises in the vernacular. Though his essay in favour of Dutch as an excellent language in which to write science had little influence, some of his arguments are still of interest and worthy of further study. One notes that his *clootcrans* (wreath of spheres) by which he demonstrated the law of the inclined plane has become the symbol of the new *Dictionary of Scientific Biography*.

Like all of Nijhoff's productions this volume is handsomely produced and has well executed drawings and diagrams, besides several well chosen plates. The English is generally readable and clear and one notes few infelicities of style. It has a useful brief list of Stevin's works, along with the most important editions and translations of them. One could have hoped for a more complete list of secondary literature on Stevin, for only four items are listed. The index is well done and useful.

C. B. SCHMITT

Drug Story

Hallucinogenic Drug Research: Impact on Science and Society. Edited by James R. Gamage and Edmund L. Zerkin. (Proceedings of the First Annual Symposium of the Student Association for the Study of Hallucinogens.) Pp. xvi+139. (Stash: Beloit, Wisconsin, 1970.) \$2.95.

THE blurb of this book claims that "people, in learning about drugs, must not only study what doctors, pharmacologists, psychologists and other authorities have to say, but must bring themselves up to a level of competence which will permit critical evaluation of the validity and relevance of the information that comes into their hands". This proposition is certainly true, but I cannot help wondering if the contents of this book are likely to make the necessity come to pass.

But this need not imply that this is a bad book. Indeed, it is an extraordinarily useful one, but its use does not lie in the direction indicated so misleadingly (perhaps deliberately) by the cover. In fact, rather than "Impact