mathematician. For example, there is a discussion on pp. 264–5 of the validity of an argument which is crucial to the calculation of the virial expansion for an imperfect gas. The problem raised is a real one, but the answer given does not solve it. The difficulty is not how to calculate the coefficients, given that the expansion (15.7) exists. That is a purely formal question and one can assume $|z|$ to be as small as we please. The question is whether the expansion (15.7) exists at all, and the answer to that is assumed in the mathematical justification. No actual harm is done, and the expansion is certainly correct. But it is an example of the difficulties which must beset any author in the narrows between Scylla and Charybdis.

The introduction to Mayer's cluster diagrams is beautiful and simple. Although the actual estimation of the integrals is beyond the scope of the book, we are given an idea of the basic idea behind the approximation. There is a misprint in diagram (15–37) which might confuse students encountering the idea for the first time.

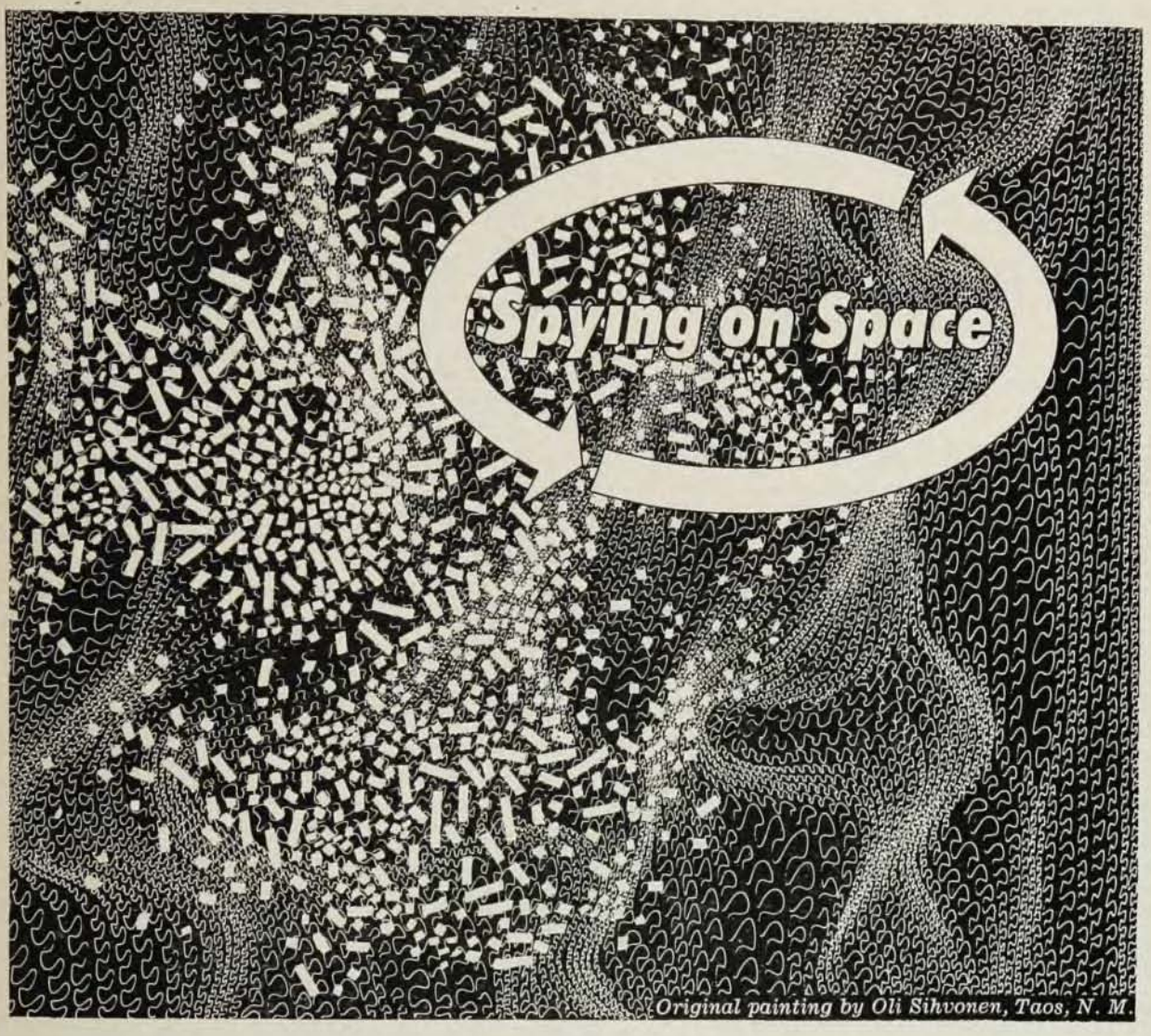
This is an excellent and beautifully produced book, probably the best of its kind so far. It is very strongly recommended to chemists who are prepared to invest enough work to be able to understand what they are doing, and to physicists who seek a wider picture of the problems of statistical mechanics.

Le Bruit. No. 855 of "Que sais-je" Series. By René Chocholle. 128 pp. Presses Universitaires de France, Paris, 1960. Paperbound 3.70 NF. *Reviewed by R. Bruce Lindsay, Brown University.*

ALL thoughtful persons agree that one of the great hazards of modern civilization is the increasing noise to which advancing technology is exposing the human race. Someone has said that during a large part of our waking hours most of us are immersed in a sea of unwanted sound. The problem has not gone without attention by acousticians and an increasing literature is available on the subject of noise and its prevention. The little book under review is a popular French survey of the principal aspects of the subject which any educated person ought to know for his ultimate good. It is one of the latest in a very large series of short, popular paperbacks with the general title "Que sais-je?". If they are all as well written as this, they can be highly recommended.

In the short space of a little more than 100 small pages, the author has compressed an admirable little treatise containing a clear account of sound and the ear, the general characteristics of noise, the measurement of noise levels, the effects of noise on living organisms, the supportable limits of noise, methods of noise prevention, the protection of the ear against noise and possible cure of auditory injury due to noise, and finally the necessity for legislation against unnecessary noise in all phases of life.

The book does not pretend to be a scientific treatise, but the presentation is clear and accurate and illustrated



Through the use of tissue equivalent dose rate meters carried on various high altitude research rockets, Los Alamos scientists are learning much about radiation in space, including its possible effect on humans. The instruments simulate human tissue, observe the effects of radiation and telemeter the data back to earth.

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by well-chosen diagrams. The short bibliography at the end contains references as late as 1959 and includes German, French, and American works on noise and its control.

Mechanics and Properties of Matter (2nd ed.). By Reginald J. Stephenson. 367 pp. John Wiley & Sons, Inc., New York, 1960. $7.50. *Reviewed by T. Teichmann, General Atomic, Division of General Dynamics Corporation.*

NEWTONIAN mechanics forms the basis for a large portion of classical physics, and engineering, and this book presents and develops the connection at the undergraduate level. The contents are not quite as ambitious as the title might lead one to think; some aspects of the mechanical behavior of solids, liquids, and gases are discussed, but not the "properties" of materials as they are usually understood these days.

All the standard topics are clearly discussed, including Newton's laws, gravitational attraction, relative motion, and elliptic orbits for particle motion; rigid mechanics; oscillations of systems of particles and elastic substances; and statics and elementary hydrodynamics. There are a number of examples in the text and the general treatment encourages the reader to work out the numerous examples at the end of the various chapters.

Special attention is given to a variety of problems not usually encountered in such detail in such a text. These include the transformations of special relativity, the scattering of nuclear particles, a detailed discussion of the rotation of rigid bodies, including Euler's equations and their application to the spinning top, and dimensional analysis.

The presentation is carried out in such a way that more advanced study of classical mechanics will not require a complete reorientation of the student, and the book should prove useful to both science and engineering undergraduates.

Graphite and Its Crystal Compounds. By A. R. Ubbelohde and F. A. Lewis. 217 pp. Oxford U. Press, New York, 1960. $5.60. *Reviewed by Stuart A. Rice, Institute for the Study of Metals, The University of Chicago.*

IN many courses in elementary (and even advanced) chemistry the student is led to believe that graphite is an inert form of carbon, somewhat related in electronic structure to aromatic molecules, but of little chemical interest in its own right. This very clearly written book should do much to rectify the situation. I have read it not as an expert on graphite (which I am not), but as a chemist interested in the properties of condensed matter. Not only have I learned many surprising facts, but also have had many ideas for research problems suggested by the material presented.

The text is divided into nine chapters, four devoted to pure graphite and the remaining five to compounds of graphite and their properties. In all instances, the