

nomenclature. The table is an excellent feature as it allows each contributor to use the usual nomenclature of his subject while preventing reader confusion. An author index is lacking, and the five-page subject index is inadequate for a reference work. Reviewers can play a game with themselves and try to find a word they consider significant that does not appear in the index. I should say that my own work has been only with gas lasers, but I was surprised that the subject index does not contain the terms gas laser, Lamb dip, He-Ne, ruby and continuous wave. There are also other terms I looked for but could not find.

I feel that the title is misleading. The book deals with measurement techniques applicable to lasers, but the stress is on the techniques rather than on lasers. A better title might be *Modern Optical Measurements*. Nevertheless, it is a useful book on optical measurements, and I will henceforth keep my copy near at hand in my own laboratory.

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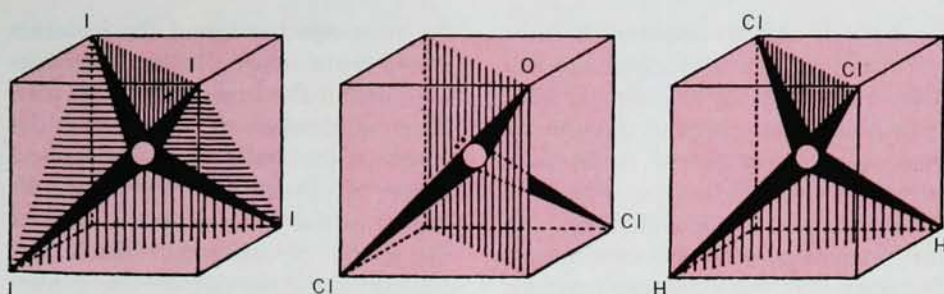
For inorganic chemists

INORGANIC ELECTRONIC SPECTROSCOPY. By A. B. P. Lever. 420 pp. American Elsevier, New York, 1968. \$31.50

by STUART A. RICE

During the last decade, a number of books have dealt with crystal and ligand field theory and its applications to the inorganic chemistry of transition-metal complexes. Is there still need for another text? Does this text by A. B. P. Lever provide a unique point of view, method of presentation or breadth of coverage? The answers to all these questions are simultaneously no and yes.

Comparison of Lever's text with those of Leslie Orgel, of Thomas Dunn, Donald McClure and Ralph Pearson and of Carl Ballhausen is revealing. It is not as elementary as the beautiful presentation by Orgel, is



SYMMETRY PLANES of molecules. The HgI_2^{2-} molecular ion has six planes of symmetry, four of which are shown in the drawing on the left. The SOCl_2 molecule (center) has one plane of symmetry and the CH_2Cl_2 molecule two such planes. (From *Inorganic Electronic Spectroscopy* by A. B. P. Lever, reviewed on this page.)

more detailed and treats the theory more clearly than does Dunn, McClure and Pearson (but omits discussion of the nonspectroscopic parts of complex chemistry that they cover) and in turn is not as detailed and is less advanced than Ballhausen's text. As an intermediate level text, its principal virtue is a modest level of coverage of almost all of the relevant physical phenomena and integration of the theory with many experimental data. The text should, therefore, be very useful to students of inorganic chemistry who wish to use ligand field theory in the interpretation of experiments. It will not be very useful to the theoretical chemist.

As to details, the treatment is standard in format but clearly done. The book is illustrated with many diagrams, a number of which are quite helpful in illustrating textual material.

There are also numerous helpful tables. Occasionally advanced material is slipped in without adequate explanation (for example, Condon and Racah parameters are not really interpreted for the student). Although the student may accept such material, the text does not prepare him to understand the "whys and hows."

The book should be a very useful text for inorganic chemists and also for others who want a moderately detailed summary of ligand and crystal field theory.

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Mechanical concepts and theories

GENERAL MECHANICS. By Henri Cabannes. Trans. from the 2nd French edition. 426 pp. Blaisdell, Waltham, Mass., 1968. \$11.50

by JACQUES E. ROMAIN

The difference between French and US general-mechanics textbooks is often that the former are more an exercise in applied mathematics and the latter are more physics in a mathematical form. By this criterion, Henri Cabannes's book would rather be classified among US texts, for it is a genuine theoretical physics book. The way new concepts are introduced is not abstractly axiomatic but discloses an earnest operational preoccupation. This careful approach clarifies, right from

the beginning, the actual purport of each concept and its limitations.

Other special features single out this book among existing textbooks on general mechanics. The first is the grouping of mathematical tools and general properties pertaining to a category of problems. Therefore the discussion of particular problems, relieved of the burden of considerations that are not relevant, becomes more compact and straightforward and the physics more apparent. A characteristic example of this approach is the exposition, at the beginning of the chapter dealing with oscillations, of the essentials of differential equations (including the classification of singu-