ond law is also used. D'Alembert's principle, so useful in many applications, is almost ignored. Lagrange multipliers and generalized coördinates are developed mathematically and well explained physically.

In the second half, Hamilton's principle is applied to electrical networks, with flux linkage and charge considered as coördinates. It is disappointing to find neglect of uncoupled coördinates. There is brief discussion of electromechanical analogs and duals, but the circuit approach to mechanical systems is not included. The book's approach is amply justified by analyses of electromechanical transducers, where fundamental methods prove especially valuable. It has the best treatment of coenergy I have read and examples that really demonstrate the variational approach as sometimes superior.

My only reservation is a statement in the preface that praises the variational method for giving students ". . . a better insight into the nature of the fundamental principles." This would be true for many students, but others would feel that variational methods introduce unnecessary difficulty. Such aversion to what seems difficult might not be overcome by the book's style, which is straightforward and clear rather than informal. But good students should find the text and its excellent problems very stimulating.

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Properties of Matter Under Unusual Conditions

Hans Mark, Sidney Fernbach, eds.
(In honor of Edward Teller's 60th Birthday.) 389 pp. Interscience, New York, 1969. $19.50

It is not so many years ago that it was quite common to find issues of scientific journals dedicated to famous men on their 60th birthdays. The recipient of such an honor was touched by this gesture, while the contributors must often have been delighted to find an opportunity to repeat themselves in print for a good cause. Everyone was happy, in fact, except the captive audience of those who had subscribed to the journal in the expectation of reading something new and original each month. Hans Mark and Sidney Fernbach are thus to be congratulated on their decision to produce this tribute to Edward Teller in the form of a book, and to leave to us the choice of whether we wish to buy it.

Unfortunately this directness does not extend to their choice of title for this work, for some of the articles that make up this heterogeneous volume are no more concerned with the properties of matter than was the Kinsey report. The eigenvalues of Casimir operators, isotopic gauge equations, broken symmetries, nonequilibrium thermodynamics, and the concept of "understanding" in theoretical physics are some of the topics discussed, while Eugene Wigner has contributed a eulogy of Teller that includes a defense of that controversial scientist's political views.

An inspection of those articles more closely concerned with the properties of matter shows that the qualification "under unusual conditions" is in fact a euphemism for "after the Bomb was dropped;" it may strike some readers that as a way of saying "happy birthday" this could be thought in questionable taste. A review by Richard Post of the physics of high-temperature plasma is the most substantial of these articles, occupying as it does one third of the volume. Even this author, however, has tried to compress too much into the available space and has deprived the general reader of a completely comprehensible account of the field.

One is left, then, with the impression that only Teller himself would be capable of fully appreciating this miscellany, and that only in order to honor him should one contemplate parting with the $20 needed to purchase it.

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Festkörper Probleme VIII

O. Madelung, ed.
311 pp. Pergamon, New York, 1968 $13.00

Volume eight of *Problems of Solid State* is a collection of six main presentations delivered by the semiconductor section of the German Physical Society at its Berlin meeting in 1968. In addition, the volume con-