disqualify himself from participating in any transaction in the consequences of which he has a substantial economic interest. It is expected that the President, through regulations, will define "substantial economic interest." It should be noted also that disqualification may be required if the economic interest in question is held by the employee's wife, child, or firm. This rule thus recognizes qualitative and quantitative differences in economic interests. It also provides for exemptions to be made by the President in situations where an exemption is in the national interest.

A second restraint prohibits a regular employee from assisting others for pay in transactions involving the government. As noted earlier, this restraint is somewhat relaxed for the intermittent employee.

The authors further propose that regular employees will not be permitted to have their pay supplemented by "anything of economic value" from a nongovernmental source in consideration of services rendered to the government. This restraint would not be applicable to intermittent employees or those serving without compensation. It also excludes from the ambit of its coverage certain private security-oriented interests, such as industrial pension and retirement plans.

In two other sections, the authors delineate rules of conduct with respect to gifts and the abuse of government office. While the section on gifts adds little certainty to present law, the section devoted to abuse of office is new and of special interest. This latter provision forbids a government employee to use his office in such a manner as to induce a person doing business with, or subject to regulation by, the employee's agency to provide the government employee with "anything of economic value." This section thus effectively deals with bribery and the problem of blatantly improper gifts.

In the area of postemployment restrictions, we find another interesting change. Once having played a direct and integral part in a given transaction as a government employee, the individual, upon leaving government service, is thereafter permanently barred from assisting any other person in connection with that transaction. If the degree of contact amounts only to "official responsibility," the bar is for a period of two years. Thus, for situations of actual conflict, the authors properly suggest an indefinite bar, but for situations of potential conflict, they propose only a "cooling-off" period of two years. This section would be applicable equally to both regular and intermittent employees.

After a brief review of these new suggested restraints, it is apparent that they provide no panacea and that not all the vagary in the present law has been eliminated. But it should be remembered that the drafters anticipate that the President and his administration will fill in and amplify these proposals.

Unquestionably, the most significant aspect of this proposed program is its reliance on administrative procedures. In reality, the administrative agencies have always been responsible for regulating conflicts of interest, but now it is proposed that responsibility should be complemented by authority exercisable in accordance with clear, modern guidelines. To those who fear laxity in the administrative process, it can only be said that experience has proved the criminal law to be ineffective as an instrument for dealing with conflict-of-interest problems. A time for experimentation has arrived, and if that experiment takes the form suggested by this forthright and well-considered study by the Association of the Bar of the City of New York, I feel confident of its success.

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Clinical Chemical Pathology. C. H. Gray. Edward Arnold, London; Williams and Wilkins, Baltimore, Md., ed. 2, 1959. iii + 160 pp. Illus. $3.75.

The second edition of this short text preserves well the first edition's excellent presentation of the chemical aspects of disease. The chapters on the function of the liver have been modified to include the newly developed function tests, while the chapter on the chemical pathology of the alimentary tract has been much reduced in length. A new chapter on fats has been added, and the chapter on biochemical tests in endocrine disease has been rewritten to include recent advances. The discussion of salt and water deficiency is excellent.

While this book offers much to the medical student, it appears to be an essential companion for laboratory technicians; by using it, the latter will obtain an appreciation of the value and the limitations of biochemical analyses.

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Quantum Chemistry. Methods and applications. R. Daudel, R. Lefebvre, and C. Moser. Interscience, New York, 1959. xiii + 572 pp. Illus. $14.50.

The appearance of this book fills a gap in the basic literature relating to the application of quantum mechanics to chemical problems. During the past 30 years, research in two areas related to this field has been extensive and varied: in the semiempirical quantum mechanical treatment of molecular properties and in the development of detailed and elaborate methods for obtaining more accurate wave functions for quantum mechanical methods used in studying molecules. Indeed, the literature is so vast that it discourages all but the most ambitious beginner who wishes to specialize in the field, and it presents a confusing mass of detail to the nonspecialist who wishes to use the results of these studies to understand his own problems. This volume provides an excellent summary of the situation to date and at the same time gives enough details concerning the various methods and their application to enable the interested chemist to use them in studying his problems.

Quantum Chemistry is divided into two parts. Part 1 proceeds from a relatively simple, nonmathematical presentation of the concepts of quantum mechanics to the development of the quite simple principles that are needed to understand the very numerous approximate methods developed for the study of bond lengths and angles, excitation energies and transition probabilities, reaction mechanisms and rates, and so forth. Each of these problems is then discussed in separate chapters, with copious examples for illustration. This part of the book is very easily read, and the discussions are sufficiently detailed to provide any interested chemist with the tools for a clearer understanding of the relationships between molecular structure and experimental results in either equilibrium or rate studies.

In Part 2 the authors delve much more deeply into quantum theory and discuss in detail the higher order approximations which are necessary once the useful limits of the simpler approximations are reached. This part of the book will be particularly useful to advanced graduate students who are planning to specialize in quantum chemical theory, and it will also be useful to the nonspecialist for checking his efforts

before he becomes too enthusiastic in applying the simple methods given in Part 1.

Most of both parts are devoted to approximations based on the molecular orbital approach, although other approaches, particularly the valence bond method, are discussed in some detail. As the authors admit, many of the methods of calculating wave functions and their properties have been omitted, but the extent of the actual coverage is impressive.

All in all, this book certainly represents the most useful and easily assimilated discussion of quantum chemistry and its applications in this field which is available to date. The authors are to be congratulated.

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Physics of the Atom. M. Russell Wehr and James A. Richards, Jr. Addison-Wesley, Reading, Mass., 1960. xi + 420 pp. Illus. $8.50.

Elementary Modern Physics. Richard T. Weidner and Robert L. Sells. Allyn and Bacon, Boston, Mass., 1960. xi + 513 pp. Illus. $8.50.

Here are two good, new books on modern physics, a field comprising chiefly relativity, quantum physics, solid-state physics, and atomic and nuclear structure. These books are written at about the same level—namely, to follow a general physics course in which calculus is employed. Both require calculus as a prerequisite; both use the rationalized mks system of units; both are about the proper length for a one-semester course; one contains 11 chapters, and the other, 12.

Both the textbooks have a gratifyingly large number of problems at the end of each chapter, and answers to odd-numbered problems at the back. In layout and typography they leave nothing to be desired; the many line drawings are clear, and a few halftone illustrations are included where most appropriate. Interestingly enough, in both books important equations are boxed for emphasis. In both, references for collateral reading, at a comparable or somewhat higher level, are listed at the ends of the chapters; the Wehr and Richards volume lists journal articles as well as standard reference or textbooks.

Wehr and Richards follow essentially the chronological sequence of the great discoveries in modern physics. The first three chapters give the atomic view of matter, electricity, and radiation; the fourth chapter presents the atomic models of Rutherford and Bohr. Chemical evidence is often quoted; this a useful feature, since most students at this level have studied general college chemistry. Some good experiments, not often seen in textbooks, are mentioned—for example, the experiment of Zartman and Ko, which confirmed the Maxwellian velocity distribution. The chapter on relativity is well done, and so is the one on x-rays. Then follow a chapter on waves and corpuscles, one on solid-state physics, and finally, four chapters on phases of nuclear physics.

The illustrations reveal excellent ingenuity and laudable clarity; the diagram of the x-ray powder-diffraction process is novel and most revealing (page 157). An item that will be found useful by instructors as well as by students is the 20-page appendix, listing in chronological order from 550 B.C. to 1958 the various key experiments and theories bearing on the atomic view of nature (the nationalities of the many persons included are also indicated). Another appendix lists the Nobel prize winners in physics and chemistry, through 1958.

The text by Weidner and Sells covers essentially the same subject matter, but it is organized in a nonchronological manner that is said to be logically coherent and sequential. The first chapter is an excellent review of the appropriate areas of classical physics. Next comes a chapter on relativity, then two on quantum effects, then three on optical and x-ray spectra. In the three chapters on nuclear physics, the subject is introduced by describing accelerating machines and detection devices; this is a rather novel order. The final chapter is devoted to molecular and solid-state physics. An attractive feature of this textbook is the short summary given at the end of each chapter. In fact, the subject matter, content, and level of the book can readily be ascertained by reading the 11 summaries (there is none for the first chapter).

A useful feature is the listing in large type, on the inside front and back covers of the book, of the nine physical constants and the four rest masses and rest energies commonly used in computations. Students working on problem assignments will find this to be a great time saver.

The choice between these textbooks will probably be made on the basis of whether or not the prospective user feels strongly about the chronological order of presentation, and whether his pet topics are emphasized. For example, Weidner and Sells give a more thorough treatment of atomic spectra, whereas Wehr and Richards illustrate the band theory of solids by explaining the operation of a number of semiconductor devices. We feel that each book is an excellent treatment of modern physics on the elementary level and that these textbooks constitute a formidable challenge for subsequent authors and publishers in this field.

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The Ongoing State University. James L. Morrill. University of Minnesota Press, Minneapolis, 1960. 143 pp. $3.50.

Much has been said and written about the American state university, but never more wisely than in this book, *The Ongoing State University*, by James L. Morrill. Published just before the author retired after serving for 15 years as president of the University of Minnesota, it is a skillful adaptation from what must have been a considerable number of speeches made between 1945 and 1960.

The first three chapters—"The land-grant idea," "Knowledge for use," and "Servant of all the people"—highlight service aspects of the state university and set the tone for the volume. Developmental and administrative features of American higher education, which so frequently confuse and confound foreign observers, are dealt with in chapter 4. Five chapters are concerned with such prickly topics as academic freedom and responsibility, religion in the state university, athletics, public relations, and the alumni. Finally, to round out a dozen closely packed chapters, Morrill makes some pointed observations about the responsibility of a state to its university, the relations of higher education and the federal government, and education as an investment in the future.

In his preface, Morrill states: "Like politics, university administration is also the art of the possible, of helping to make possible the aims of both the philosophical and the practical as scholarship and science and society