The second part is concerned with details of applications of various instrumental methods to industrial products, to medicine, and to pollutants. The topics are largely the same as those treated in the second part of volume 2, with the emphasis in this case on instrumental procedures. The variation in quality and depth of treatment is much more pronounced in this second section of volume 3 than in the first. For example, in some chapters sufficiently detailed instructions are found for the performance of a given analysis so that recourse to the original literature may be unnecessary. Other chapters are quite general in their treatment and largely serve as a catalogue of literature references.

In my opinion, the attempt to separate the application sections in this edition into two parts based on instrumental and noninstrumental procedures is regrettable. The artificiality of this division becomes apparent in a perusal of the two sections. In volume 2 (noninstrumental), for example, one finds procedures based on potentiometric or spectrophotometric measurements. In volume 3, frequent references must be made to details found in volume 2. If indeed a separation must be made (which I doubt), might not this separation be better based on "standard" and "nonstandard" methods? The so-called instrumental methods then fall primarily though not exclusively in the latter category; however, the distribution will undoubtedly change with time. The sixth edition of *Standard Methods* is a useful reference work and belongs in technical libraries.

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Stroboscopy

The stroboscopic, or pulsed-image, principle has been exploited, if not understood, for hundreds of years. A variety of mechanical devices have utilized this optical illusion to titillate the human observer. With the advent of the practical electronic flashtube some 35 years ago, stroboscopy entered a new era of practical application, including speed measurements, motion studies, photography, and stimulation of photosensitive materials. Pulsed light is a versatile tool of enormous potential value in a broad range of fields, yet few books have been written on the subject. Jerzy Rutkowski's **Stroboscopes for Industry and Research** [translated from the Polish *Stroboskopy* (Warsaw 1961) by E. Lepa. Pergamon, New York, 1966. 278 pp., illus. $12.50] brings together for the serious researcher a wealth of material on the theory of stroboscopy and the construction of stroboscopic instruments.

The presentation assumes a grasp of undergraduate mathematics, and the material is treated from a theoretical rather than a practical standpoint. The book will serve admirably as a text because of its in-depth treatment. For example, the discussion of the photometric properties and perception of the pulse image will be welcomed by disciplines ranging from engineering to physiology.

The still-useful mechanical stroboscope is described in detail, and there is exhaustive coverage of the electrical circuits and components employed in flash stroboscopes. Considerable attention is paid to circuit functions, which are explained in terms of their complex interrelationships in practical stroboscopes.

The important subject of synchronization is well covered, as are the characteristics of various accessories. But the material on applications is weak, and the tabulations of available equipment with their abbreviated characteristics around 1960 are already dated. It seems unlikely that the book will receive the universal acceptance suggested by inclusion of "industry" in the title.

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Chemistry of a Functional Group

The Chemistry of the Carbonyl Group [Interscience (Wiley), New York, 1966. 1039 pp., illus. $32.50] is the second in a series of volumes produced under the editorship of Saul Patai which attempt to deal exhaustively with the chemistry of functional groups. Its predecessor, which dealt with the alkenes, was enthusiastically received in these pages a year ago; I cannot accord a similar welcome to the present volume. This volume seems to be the victim of two current conceptions regarding the production of scientific books: that of publishers which holds that libraries will acquire willy-nilly anything presented to them regardless of price or quality, and that of editors which maintains that their task is complete when signed contracts have been secured for a reasonable number of chapters. All in all, the book is not really bad; neither is it nearly as good as it might have been.

This treatise, which attempts "to encompass all facets of a functional group and to give up-to-date descriptions of the nature of the carbonyl group, of the main pathways leading to its formation, and of its main modes of reaction," consists of 17 loosely coordinated chapters contributed by a total of 26 authors. Admittedly, organizing the efforts of so many to produce a coherent whole is an ambitious goal; it is one which is not realized in the present case. The scope of the volume is so broad that, despite its length, important topics are dealt with superficially, redundantly, or not at all. For example, a topic so basic to carbonyl chemistry as the reaction of these substrates with amines nowhere receives a thorough discussion. The forward reaction is discussed in one chapter, the microscopic reverse in quite another, and the analytical uses of these reactions in yet another. Of course, the entire subject is to be completely rehashed in an upcoming volume, so perhaps one is expected to forgive the present inadequacies. The closely related reactions involving the addition of oxygen nucleophilic reagents to carbonyl compounds seem to have escaped attention altogether. Similarly, the reasonable entry "eneamines" appears nowhere in the index; this is not the fault of the index.

One wonders whether chapters such as that dealing with general and theoretical aspects of the carbonyl group really belong in a book of this type. The chapter is competently done, but those interested in quantum mechanical treatment of carbonyl compounds are not likely to resort to a volume aimed principally at synthetic organic chemists. A similar question may be raised concerning a chapter on chemical and physical methods of analysis. The space occupied by such material might better have been employed to provide additional depth to topics central to the main theme of the entire work. Lack of really adequate coverage is ac-