chemical conversion and anodized coatings; special purpose coatings, ranging from slushing compounds to vitreous coatings; and corrosion inhibitors.

This edition has been substantially expanded from that of 1939, with all former chapters brought up-to-date in content and references. The chapters on sprayed coatings and inhibitors are new.

Other available works on corrosion, such as those by Evans, Uhlig, or Speller, contain sections that cover the same area as the present book. However, they treat this area much less fully, with primary emphasis on other aspects of corrosion. The present volume therefore does not duplicate these others but becomes a useful supplement to them.

A few typographic errors and minor errors of fact were noted, but on the whole the level of accuracy is high. The style is readable and explicit, and the quality of the printing and binding is good. The book is recommended to the chemist, corrosion engineer, metallurgist, or anyone concerned with selecting and specifying corrosion protective coatings.

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Biochemistry of the Aminosugars. P. W. Kent and M. W. Whitehouse. Academic Press, New York: Butterworths, London, 1955. ix + 309 pp. $6.80.

The need for a modernized version of Levene's monograph *Hexosamines and Mucoproteins* can hardly be exaggerated. A vast amount of information has accumulated in this very important field, which, up to now, has never been fully summarized and evaluated. The authors of this book deserve credit for having undertaken this difficult task. It is regrettable, however, that the first monograph in this field since Levene's book has not been prepared with greater care and critique.

The book is divided into two main chapters: (i) aminosugars in the biological environment, and (ii) the chemistry of the aminosugars and their derivatives. It seems obvious that the authors are more familiar with the subject of the second as compared with the first chapter. Following are some of the errors and misstatements that were quite obvious from my experience with part of the subject matter.

On page 13 appears the statement that the action of hyaluronidases leads chiefly to disaccharides. This statement is true only for bacterial hyaluronidases. In the scheme on page 13, crude hyaluronidases (containing β-glucuronidase and glucosaminidases) are represented as acting on the disaccharides produced by pneumococcal hyaluronidases. This statement is incorrect. On page 163, the statement is made that hyaluronidases degrade native hyaluronic acid to a disaccharide, hyalobiuronic acid. Hyalobiuronic acid is a deacetylated disaccharide, as is reported correctly on page 108, and even the yield of *N*-acetylhyalobiuronic acid in digests of purified testicular hyaluronidase is very low. On page 106, the statement is made that purified testicular hyaluronidase does not cause further degradation or rearrangement of the primary enzymic products, whereas on page 33, the transglycosidative action of testicular hyaluronidase is correctly reported.

On page 109, "mucosin" is reported to be hydrolyzed by β-glucuronidase, while on page 67, it is correctly quoted from the literature that deaminated mucosin is hydrolyzed by β-glucuronidase. The finding of urinary "mucoprotein" is credited to Gottschalk (1952); its prior isolation by Tamm and Horsfall (1950) is not mentioned. Likewise, the most careful work on the mucoids of human plasma, including the isolation of a crystalline acid mucoid by K. Schmid (1950) is not mentioned.

On page 135, the presence is reported of *N*-acetylglucosamine and galactosamine in type-I pneumococcal polysaccharide. The reference given does not contain any such statement. The same holds true for reference 151 on page 107. On page 189, the formula of altrose is erroneous. The formula on page 212 is not a derivative of dihydropyrazine but of a substituted piperazine. To me, the reproduction of the carbohydrate core of ovomucoid (p. 127) without critical evaluation appears unfortunate. The same applies to many other data reported from the literature. The term *aminodextrins* for oligosaccharide fractions derived from hyaluronic acid, which have very little in common with dextrins, seems unfortunate.

In spite of its shortcomings, the book represents a useful survey of the field, especially since it has no rival to compete with.

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Vitamins in Theory and Practice. Leslie J. Harris. Cambridge Univ. Press, New York–London, ed. 4, 1955. xv + 366 pp. Illus. $6.50.

This book is written in simple language that is easily understandable by and interesting to the lay reader. It is devoted to the discussion of the theoretical and practical aspects of both the water-soluble and oil-soluble vitamins. Thus, for each vitamin, the sources, the symptoms of deficiencies, the chemical structure, and the methods (chemical, microbiological, or animal) for the determination are treated briefly and concisely. The role of various vitamins as coenzymes is described only sketchily and perhaps inadequately for those who might be interested in the fate and mode of action of vitamin, *in vivo*. However, this book contains valuable illustrations and historical background to make it worth while for all students interested in vitamins.

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Autoradiography in Biology and Medicine. George A. Boyd. Academic, New York, 1954. xiii + 399 pp. Illus. + plates. $8.80.

Becquerel's monumental discovery of the radioactive phenomenon opened new vistas in our understanding of the structure of matter and also provided new tools for probing the distribution of imponderably small quantities of radioactive nuclei in stable systems. The pattern of the distribution, outlined on a photographic plate by the energetic radiations emitted in the decay of the radioactive material, termed an *autoradiograph,* found many fields of useful application. However, even 40 years after the basic discovery, a survey of the biological litterature would scarcely yield sufficient information for the assembly of a modestly sized review essay. This minor application of autoradiography in the medical field is largely attributable to the nature of the radioactive species, available as tracers during that period. The spontaneous disintegration of uranium and thorium provided the investigator with heavy metal tracers such as radium and polonium, which although of toxicological interest, could not be employed to study the migratory course of the lighter elements that play a predominant role in biochemical systems.

Since the discovery of the neutron and the synthesis of radioactive isotopes representative of virtually the entire periodic system of elements, the application of tracer techniques in biology and medicine has been increasing at a seemingly exponential pace. Today this phase of the literature greatly exceeds all other applications of autoradiography in the combined fields of metallurgy, crystallography, and mineralogy, once the principal source of the experimental techniques. Investigators studying the localization of radioactive isotopes in biologi-