Book Reviews

The conquest and colonization of Yucatan, 1517–1550. (Publ. 582.) Robert S. Chamberlain. Washington, D. C.: Carnegie Institution, 1948. Pp. vii + 365. (Illustrated.) $4.75, paper; $5.50, cloth.

In any historical or scientific writing, the background of the author plays an important part. Probably few historians in the American field have a more imposing background in the history of Spanish conquests than Robert Chamberlain. The number of bibliographical works concerning Spanish conquests in Yucatan, especially by those conquistadores, the Montejos, have largely resulted from Robert Chamberlain's researches. This book may be regarded as the consolidation of a whole series of accomplishments in this direction.

The author has pointed out the great importance of an exhaustive work concerning the conquest of Yucatan. This phase of the New World enterprises of the Spanish is certainly the least known of any. The conquest of the Valley of Mexico and of the surrounding peoples has been exhaustively chronicled from several viewpoints. Spanish entradas in northern Mexico and the Southwest have also aroused considerable historical enthusiasm. Pizarro's conquests of the vast Inca state are known to every casual student. The more important explorations and conquests of Yucatan by the Spanish have been heretofore inexplicably slighted. Yucatan was the first portion of the mainland of the Americas west of Cuba to be discovered, but it was the last area of these coasts to be subjugated. This sequence seems to have been followed by present day scholars. Even the name of the great conquistador, the Adelantado, Francisco de Montejo, is little known. Robert Chamberlain ably brings out the qualities of Montejo during the many difficulties of the Spaniards in exploring and pacifying Yucatan. The publication of *The conquest and colonization of Yucatan* assures the name of Montejo its just place with Cortés, Pizarro, Balboa, Jiménez de Quesada, Alvarado, and Valdivia.

The Spanish history in relation to Yucatan is closely followed from the time of the discovery and the initial phases of the conquests, through the many entradas and colonization attempts, to the final conquest after the great Maya revolt. The last portion of the book deals with the first years of the colony to the middle of the 16th century. Francisco de Montejo, into whose hands the Castilian Crown gave the occupation of Yucatan, had interests in addition to Yucatan proper; consequently the history includes other areas adjacent to Yucatan. Montejo had his eyes fixed on other areas—Honduras and Higueras, the region of Golfo Dulce and Chiapas. The history of these neighboring provinces was inextricably interwoven with that of the Mayan area.

It would be a strange book indeed that a reviewer could not criticize in some minutia. The controversial points are of little importance, however. In cases of possible doubt the author has carefully cited the original texts in elaborate footnotes. By the very nature of these early sources, there were controversial accounts and mutually exclusive data and dates. The author has reviewed and weighed the evidence carefully in all cases. In many instances Mr. Chamberlain has exhibited a thorough knowledge of the background of his subject over and above purely historical facts. He displays an intimate acquaintance with the encomienda system, for example, without which knowledge much of the Spanish history in Yucatan is inexplicable. The bibliography and footnote structure of this book convinces this reviewer that the author has made adequate use of all known sources relating to the history and conquest of Yucatan.

The conquest and colonization of Yucatan is a significant work on the background of the European advent in the Americas. Between two covers, Robert Chamberlain has collected all of the data pertinent to this period, indicated the significant features, and authenticated the whole.

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Fatigue and impairment in man. S. Howard Bartley and Eloise Chute. New York: McGraw-Hill, 1947. Pp. 429. $5.50.

This book proposes a thesis that conflict and frustration are cardinal factors in the etiology of fatigue and at the same time provides, unwittingly, excellent material for testing this hypothesis. For the reviewer, the theory has "worked." He became frustrated. And he became tired. On checking with others who read the volume he was able to verify that his was not an exceptional, idiosyncratic reaction.

Throughout, the treatment suffers from a basic dilemma. Arbitrarily, the authors limit the meaning of fatigue to the experience of feeling tired. They use the term impairment for the objective, biochemical and physiological alterations present in a variety of situations in which the human organism is placed under strain. Their primary interest is in fatigue, not in impairment. Yet most of the book is devoted to impairment. The result is a definite lack of balance.

There is need for a detailed summary of the results and problems of "stress" physiology, taking into account the phenomena of both adaptation and breakdown of the adaptive mechanisms. This need became even more acute as a result of the accumulation during the war years of a large mass of new data on the effects of

extremes of environmental temperature, high altitude, nutritional deficiencies, strenuous work, participation in combat, etc. This undertaking is beyond one man's competence and capacity. At any rate, the summary attempted by Bartley and Chute does not fill the need for a comprehensive and up-to-date treatment.

The part devoted to fatigue as a subjective experience is also unsatisfactory, but for other reasons. The amount of valid and usable information available in the literature is small and there is, consequently, little to summarize. Bartley's own work in this area is very limited. The role of "conflict" in the causation of fatigue was developed in the course of his studies on the pupillary reflex (1942). Later (1943) conflict (and frustration), defined as "any clash, incompatibility or disharmony occurring at any level of organismic activity," was assigned a universal role in fatigue. Most of the discussion is based on arm-chair analysis.

The emphasis on the attitudes and motivation of persons in whom fatigue is being studied is wholesome. Few will disagree with the author's statement that the subjective phenomena of fatigue cannot be treated in a simple quantitative fashion. However, no constructive suggestions, useful to the experimenter or the clinician, such as using more sophisticated, standardized inventories, were submitted. Improved methods are a *sine qua non* condition of rising above the stage in which "most of what we know about fatigue arises from everyday observations and from deductions made from these" (p. 400).

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Scientific and industrial glass blowing and laboratory techniques. W. E. Barr and Victor J. Anhorn. Pittsburgh, Pa.: Instruments Publ., 1949. Pp. viii + 380. (Illustrated.) $6.00.

Three objectives are outlined and admirably attained in the 15 chapters of this book. The first objective is to give instruction in glass blowing, with many elementary details and drawings, covering a simple junction of two pieces of glass and ending with the making of a complicated ground glass stopcock. Shop layout, burner designs, the chemical and physical properties of glasses of American and imported types and other related topics help to broaden the reader's knowledge. A chapter on glass-to-metal seals covers the principles involved, the combinations of metals and glasses available, their properties, and the production of lamps and tubes with such seals.

The second objective is to present advanced techniques required for the production of high vacua. Two chapters describe many types of vacuum pumps and vacuum gages in great detail, including their calibration and uses. There is a chapter on high vacuum techniques which includes silvering methods, gas evolution from hot glass, and a host of other items.

The third objective is to describe in great detail four types of special glass equipment with the aid of other authorities, such as Joyner on gas adsorption apparatus, Hanson on molecular weight apparatus, Anderson on Swietoslawski ebulliometers. A long chapter is devoted to distillation problems, including theoretical discussion and operating requirements of fractionating and distillation columns and condensers. Vacuum fractionating equipment and molecular stills also are described.

Each chapter is concluded with adequate literature references, and the index refers to subject matter only. The book will appeal to people of varying interests, but the emphasis is mainly on chemical scientific apparatus and the title might well have indicated this. There will be differences of opinion on the details of construction, but not on the main points covered. With so much material there are bound to be errors, such as the Dushman reference on page 191, and the chemical composition of DG glass on page 124.

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The essentials of organic chemistry. C. W. Porter and T. D. Stewart. Boston, Mass. and London, Engl.: Ginn, 1948. Pp. vi + 394. (Illustrated.) $4.00.

Professors Porter and Stewart have provided a textbook for a short course in organic chemistry. They have covered most of the basic and established facts and theories of this branch of learning in a simple style that should be easily comprehensible to a beginning student. The book is designed primarily for nonscience majors. It is equipped with exercises and problems at the end of each chapter and with adequate diagrams, tables, and equations to illustrate the textual discussions.

It should have been possible for the authors to incorporate some of the more important and interesting new products, processes and theories without lengthening the book unduly. Such developments as the silicones, the oxo process, and the carbonium ion theory of rearrangements are either not mentioned or are inadequately treated. Statements such as the following are inaccurate or grossly misleading: "Animal parasites are called trypanosomes; examples are the hookworm, the amoeba which causes dysentery, . . ." (p. 361); "A reaction which is not given by aliphatic ketones, but which occurs readily with aromatic ketones, is the Clemmensen reduction" (p. 331); "The hydroxyl group of a phenol, however, may be replaced with chlorine by heating the phenol with phosphorus pentachloride" (p. 300). The last statement is not qualified in any way and creates the false impression that satisfactory yields are ordinarily obtained with all phenols.

Aside from this sort of inaccurate statement, however, the book is remarkably free from errors. It is well printed and bound and presents an attractive appearance. The authors have produced a work which should be popular in many colleges.

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