# BOOK REVIEWS.

**Literatur der Zellstoff-** und Papier-Chemie und er Papier-Technik im Jahre 1909. (Schriften des Vereins der Zellstoff-ind Papier-Chemiker). By CARL C. SCHWALBE and ALFRED LUTZ. Verlag von Gebrüder Borntraeger, Berlin, 1911, 5 M.

The authors have undertaken in this book to abstract from forty-five journals the articles relating to the chemistry and technology of the cellulose fibers and paper.

Recent advances in the chemistry of the allied textile industries where cellulose is the basis, such as cotton, linen, jute, ramie, etc.; also the nitrocellulose explosives, celluloid and artificial silks have been abstracted.

The authors have divided the work into two parts:

Part I by Dr. Schwalbe, of Darmstadt, considers the chemistry of the cellulose and paper industries. This part contains 158 pages with an authors' and subject index. The subject matter is arranged as follows:

1. The chemistry and technology of the cellulose fibers.
2. Recent analytical developments.
3. Raw materials of the cellulose and paper industries.
4. Digestion of the cellulose fibers.
5. Bleaching.
6. Sizing.
7. Water used for manufacturing and power purposes.
8. Waste liquors.

Part II by Alfred Lutz, of Berlin. considers the manufacture and technical side of the cellulose and paper industries. This part contains 76 pages with an authors' and subject index and is arranged as follows:

1. Preparing of raw materials.
2. Digestion, washing, and bleaching.
3. Preparation of mechanical pulp, and pasteboard manufacture.
4. Shredding and screening.
5. Paper-making machines and paper manufacture.
6. Paper-finishing.
7. Special papers.
8. General.

The aim will be to continue this publication so that all interested will be able to obtain the abstracts instead of searching through the various scientific and technical journals. This will no doubt be of great interest to all connected with the cellulose industry.

OTTO KRESS.

**Fibers used in Textile and Allied Industries.** By C. A. MITCHELL and R. M. PRIDEAU. 1910. London: Scott, Greenwood & Co.; New York: D. Van Nostrand Co. $3.00 net. 190 pp., 66 illustrations.

In this book the author has attempted to bring together the latest microscopical and chemical-technical methods for the determining of the principal animal and vegetable fibers. The book deals with all the principal fibers used in spinning, weaving, cordage, brush-making and upholstery, but does not include furriery or paper-making.

The arrangement of the subject matter is as follows: Introduction; wool; other animal fibers; silk; cotton; mercerized cotton; artificial silks; linen and ramie; jute and other cordage fibers; brush fibers; vegetable; downs and other upholstery fibers. Each of the fibers is considered briefly as to occurrence, preparation, uses, chemical composition, and as to methods for its chemical and microscopical identification.

The 66 illustrations, which, with three exceptions, were drawn specially by the authors, are well chosen, and representative, and are of great value for comparison in that they are, with few exceptions, drawn to the same scale. The authors not only have assembled the latest methods from the different scientific journals, but have added considerable from their own experience. References are given to the original article abstracted.

There are several typographical errors, the most serious one occurring on page 100, in which the oxygen content of the different nitrocelluloses as prepared by Vieille and adopted by Lunge should be 20 instead of 2.

The paper, printing, binding and general arrangement is good, and the authors have supplied a book which will be welcomed by all interested in the testing of textile fibers.

OTTO KRESS.

**Essentials of Business Law.** By FRANCIS M. BURDICK. D. Appleton and Company. 1910. xi+309 pp.

The name of the author of this little book speaks more forcibly for its merit and the care with which it has been prepared than any commendation which the reviewer can give. Its purpose, as stated in the preface, is to give the reader a knowledge of the essential principles of business law in clear and popular language, and this result has been accomplished to a remarkable degree. Indeed, it is believed that any lawyer who might read it would be surprised to learn with what simplicity and accuracy many legal principles can be stated and made intelligible to the non-professional reader.

The author disclaims any attempt to furnish a work which will enable the reader to be his own lawyer. It is in this respect that most of the authors of works on business law have erred. They have apparently endeavored, by furnishing a compilation of statutes of various states, to enable a man to act for himself in particular matters. These statutes are generally highly technical, not only in their phraseology but in their application, and no prudent man would attempt to conduct his affairs by the aid of such a work without legal advice. No book ever has been written and, in all probability, no book ever will be written which will make every man his own attorney.

Professor Burdick has approached his subject in an entirely different manner. He proceeds, in clear and simple language, to explain the important and funda-

mental principles underlying our system of law. Commencing with two interesting chapters on the origin of our law and the manner of its development, he then enters upon the specific subjects treated: Contracts, Agency, Bailments, Bankruptcy, Insurance, Negotiable Paper, Partnership, Joint-stock Companies, Corporations, Property and Sales of Personal Property. The care with which the work has been prepared is shown by the discrimination used, not only in the selection of subjects, but also in the treatment of only the fundamental principles involved and refraining from pursuing topics into their more technical fields, which would only serve to confuse the reader. The principles stated are frequently illustrated by concrete examples which greatly assist the reader to fully understand the application of the rule given, and throughout the text is readable and holds the attention.

No one, whatever his occupation may be, could read this book without profiting from it. He would not only be in a better position to appreciate his legal relations with those with whom he comes in daily contact in the course of his business dealings, but also would be able to discuss his affairs with his attorney with a more intelligent comprehension of the problems involved.

The author, in his preface, has intimated that the book is primarily intended for the instruction of young readers. Of its value in this respect there can be no doubt, but it is believed that the scope of its usefulness is much broader, and that even greater advantage can be obtained from it by persons of more mature years.

F. P. WHITAKER.

**Chemistry of Food and Nutrition.** By HENRY C. SHERMAN, PH.D. viii + 355 pp. The Macmillan Co. $1.50 net.

The subject of food and nutrition may be approached by way of chemistry, by way of physiology, or by way of hygiene, pathology, or economics, and since students and investigators of the subject usually select one of these modes of approach, they are likely to see and present certain of its aspects more fully than others or to disregard some topics altogether.

In his "Chemistry of Food and Nutrition" Dr. Sherman is to be congratulated in that he has started with the subject of food itself. From this he moves outward to the consideration of the subject in all its important scientific bearings and connections. The result is a well-balanced treatise on food and nutrition, and not a volume on physiological chemistry, hygiene, or economics. However, such matters are discussed in their relation to the main theme.

The volume is primarily a text-book, the outcome of several years of teaching at Columbia University, and has been prepared for the use of the author's classes and other collegiate and technical students. It will however, also appeal to that growing number of general readers who consider that a knowledge of food materials is a necessary part of the equipment of a well-informed person, as well as to those who think that such knowledge is essential to the maintenance of the highest body efficiency.

The general scope of the work is indicated by the following chapter headings: The Organic Foodstuffs, The General Composition of Foods and Action of Ferments, The Course of the Food through the Digestive Tract, The Fate of the Foodstuffs in Metabolism, The Fuel Value of Food and the Energy Requirement of the Body, Conditions Affecting the Total Food Requirement, Protein Metabolism and the Protein Requirement, Food Habits and Dietary Standards, Iron in Food and Its Functions in Nutrition, Inorganic Foodstuffs and the Mineral Metabolism, and Criteria of Nutritive Value and Economy of Foods.

The appendix contains tabular matter regarding the percentage composition, energy value, and ash constituents of the more common food materials.

The relatively large amount of space given in this volume to inorganic foodstuffs and mineral metabolism, a subject which Dr. Sherman has studied extensively is a matter for congratulation. When we consider how often the inorganic elements of food have received what may be called "lump treatment," and what a relatively small amount of trustworthy data are readily available on this subject, we are led to think that an extended treatment of this sub-topic tends to balance rather than to unbalance the general subject of foods. The tabular matter which shows the percentage amount of each mineral constituent in the edible portion, and also in a 100 calorie portion of the more common food materials will prove a great convenience, as will also the tables showing the percentage composition and energy value of 100 calorie portions of the more common foods.

The writer discusses fairly and at length two subjects, on which opinions have differed, namely, protein requirement and the absorption of inorganic iron by the animal body.

"Where a low protein diet is desired either for physiological or economical reasons," he suggests "an allowance of about 75 grams of protein per man per day, and for an average diet about 100 grams per man per day."

With reference to inorganic iron, he concludes that it probably does not enter into the hemoglobin molecule but that it acts as a stimulant to the production of hemoglobin and should therefore be taken not in place of, but in connection with, food materials rich in organic compounds of iron.

The entire discussion of this subject will be of great value to those who are interested in the problem of the proper feeding of children and young people.

While the size of the volume did not permit of extended discussion from an historical standpoint, the author has included such matter of this character as seemed most essential, and has provided references which will enable the student to readily find such additional material as may be required.

C. F. LANGWORTHY.