

tudes of the moon are observed at sea to-day than at any time previously.

There is one class of reader to whom the work of Prof. Jacoby should especially commend itself, and that is the fortunate owner of the palatial steam yacht who would fain make himself acquainted with what it is that his sailing master is about. It was perhaps in the interest of this type of reader that a final chapter is devoted to a circumstantial account of the voyage of the hypothetical steam yacht *Nav* from New York to Colon on December 18, 1917. Moreover, the story is very well told. H. B. G.

BEVERAGES.

Beverages and their Adulteration. Origin, Composition, Manufacture, Natural, Artificial, Fermented, Distilled, Alkaloidal, and Fruit Juices. By Dr. Harvey W. Wiley. Pp. xv+421+11 plates. (London: J. and A. Churchill, 1919.) Price 21s. net.

DR. WILEY remarks that his book "is not written for the scientific investigator, but for the average, sober-minded, reasonably well-educated American citizen." A general account of the beverages discussed is, in fact, what is given, neither severely technical nor flimsily "popular." The facts are stated carefully, as would be expected from the author, but little or no scientific knowledge on the part of the reader is assumed.

Water, as the beverage *par excellence*, is given pride of place. Both ordinary drinking supplies and mineral waters are dealt with, and the information given is such as will enable the reader to obtain an intelligent idea of water supply in its bearing upon the public health and upon manufacturing operations. Various processes of water purification are briefly described, and the utility of chemical and bacteriological analyses of water is explained. Touching on the widespread faith of ordinary humanity in the virtues of medicinal springs, the author dryly remarks that this faith is "not so well founded in fact as it is extensive in belief." At the same time, he indicates the factors producing the undoubted benefits which often result from "taking the waters"—namely, the change of habits, the simpler diet, avoidance of excesses, and so on. These, of course, are active aids in restoring health, even when the water itself has no particular therapeutic value, except, perhaps, as a laxative.

Apropos of the habit of drinking ice-cold beverages—a habit more common on the other side of the Atlantic than here—the evil effects are summed up in an amusing quotation:—

Full many a man, both young and old,
Has gone to his sarcophagus
By pouring water, icy cold,
A-down his hot œsophagus.

"Soft drinks" have an especial interest for Americans just now, and perhaps they may presently acquire an added importance for ourselves.

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The term is applied in the United States to "non-alcoholic" beverages. Whilst the typical "soft drink" is soda-water mixed with a flavoured syrup, other "soft" beverages are legion. Apart from the undesirability of much sugar in drinks consumed largely by children, and the above-mentioned habit of taking them ice-cold in hot weather, Dr. Wiley does not see much objection to the general run of non-alcoholic beverages when these are prepared in a hygienic manner from wholesome materials. Some, however, contain drugs such as caffeine or cocaine; these are highly objectionable, and should, the author considers, be prohibited by law.

In the sections devoted to tea, coffee, and cocoa the reader will find some notes and historical sketches that are worth perusing, apart from the main descriptions of these beverages.

An interesting section is the one dealing with wine. Dr. Wiley has personally inspected nearly all the French vineyards where the most famous wines are produced, and has also visited the Spanish, German, and other wine-growing areas in Europe. His pages will be welcomed as giving a present-day account of the industry. He remarks, by the way, that the mean annual wine-production of the Château Y'quem is only 90 tuns, and opines that there is something miraculous in this quantity supplying the large amount of Château Y'quem wine, so-called, that is drunk in the world.

Some sensible advice is offered on the production of uniform and distinctive types of wine in the United States, and on the adoption of distinctive native names for them, instead of calling them by foreign names which are not really applicable.

Whilst here and there one misses the facile touch of the purely literary man, Dr. Wiley's occasional notes and historical extracts serve agreeably to enliven the substantial body of facts which he has brought together. The book is, of course, written from the American point of view, but much of the matter is of quite general interest, and will appeal to readers on both sides of the Atlantic. C. SIMMONDS.

OUR BOOKSHELF.

Les Symbiotes. By Prof. Paul Portier. Pp. xx+315. (Paris: Masson et Cie, 1918.) Price 5 francs.

THIS book, dedicated to his Serene Highness the Prince of Monaco, contains a lively exposition of a heresy, in regard to which the author frankly admits that if some years ago he had seen it stated at the beginning of an essay, he would probably have read no more. The heresy is that apart from bacteria, all organisms are double being formed by the association and "emboîtement" of two different kinds of creature. There are partners within every cell, partner-bacteria, which the author calls "symbiotes." A symbiote is a domesticated micro-organism with two remarkable properties, an extreme plasticity that