

## OUR BOOKSHELF.

*A Course in Food Analysis.* By Dr. A. L. Winton. Pp. ix+252. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1917.) Price 7s. net.

THIS is a useful introductory work for students who have had preliminary instruction in general chemistry and are commencing to learn the principles of food analysis. The author has arranged his subject-matter in a manner suitable for class work during a course extending over forty laboratory periods of four hours each. In his experience multiple pieces of apparatus, such as Kjeldahl digestion and distilling stands, are most convenient when designed for twelve determinations—that is, for six students, each carrying out duplicate experiments; and the same number of students is also a convenient one to use on the same day such apparatus as the polariscope, refractometer, or Westphal balance. Hence in the text provision is made for students to work in groups of six, if so desired, and the methods can be suitably allotted to avoid duplication of expensive apparatus.

General information is given upon, and laboratory work mapped out for, the various classes of foodstuffs—dairy products, flesh foods, cereal foods, sugars, fats, vegetables, fruits, flavourings, and beverages. The general matter indicates the nature and composition of the foodstuff dealt with, and includes brief statements of the principles involved in the chief methods of analysis employed for examining it. In the laboratory work prescribed there are detailed instructions for carrying out the commoner estimations. These include experiments with the polarimeter, refractometer, tintometer, and colorimeter; nitrogen estimations; determinations of alcohol, saponification numbers, iodine values, and so forth. A useful chapter is one devoted to the microscopic examination of vegetable foods.

The book is written primarily for American students, but the English user will find no difficulty arising from that fact—except perhaps for an occasional phrase such as "Hamburg steak" or "salt-mouthed bottle." As an introduction to more comprehensive works the volume can be confidently recommended. C. S.

*Instruments de Musique: Le Télharmonium.* By Julien Rodet. Pp. 96. (Paris: Gauthier, Villars, et Cie, 1917.) Price 3.50 francs.

THIS little book is characteristic of the clear exposition of a well-informed French author when he has thoroughly mastered the subject. All the phenomena of sound are briefly dealt with in such a manner that he who runs may read. The chapters include the production and propagation of sound, a short discussion of the laws of vibration of cords, plates, and tubes, the intimate nature of musical sounds, and a study of musical scales. Then follows a summary description of the more common instruments of music; this chapter will be of great use to the amateur who desires to know the principles on which his favourite instru-

ment is constructed. The last chapter is on a new instrument, the tel-harmonium, and is the novel part of the book; it is the description of an electric organ by which, and by electrical means alone, a synthesis is possible of any musical sound, however complex. The tones so produced are developed by telephone. Alternating currents produce electric generators of tone, and these are superposed on the diaphragm of a telephone. A keyboard controls the tones of seven generators, and by resistance arrangements the intensity of any generator may be modified. In this way it is said that the qualities of the chief instruments of the orchestra, such as the clarinet, the oboe, the cor anglais, the violoncello, and others, can be reproduced with such accuracy as to satisfy the musical sense of a musician who is unaware of the origin of the sounds. Evidently the manipulation of the instrument must be difficult. J. G. M.

## LETTERS TO THE EDITOR.

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## Pope Innocent VIII. and Witchcraft.

IN the issue of NATURE for April 11, p. 113, is an erratum which corrects a statement made in NATURE for April 4, p. 82, regarding Pope Innocent VII. and witchcraft. It is stated that Pope Innocent VIII. in 1484 "gave the sanction of the Church to the popular beliefs concerning witches." In the cause of historical truth it must be stated that Pope Innocent VIII., by his Bull "Summis desiderantes affectibus" (1484), must be considered to affirm the reality of the alleged phenomena of witchcraft. But the Bull pronounces no dogmatic decision, and the Pope does not wish anyone to believe more about the reality of witchcraft than is involved in the utterances of Holy Scripture. The immediate effects of the Bull have been greatly exaggerated. The expression, "gave the sanction of the Church," is, therefore, inexact, and, being inexact, is unscientific; it needs much qualification.

A. L. CORTIE.

Stonyhurst College, April 18.

[The reference in NATURE was from an article by Dr. E. Withington in "Studies in the History and Method of Science," reviewed in our issue of April 4. Dr. Withington sends the following remarks upon Father Cortie's letter.—ED. NATURE.]

THE Pope's Bull is printed as preface to all editions of the "Malleus maleficarum." It was taken as authoritative by Catholic inquisitors, and, presumably, by most of the faithful. This is what ordinary English people would understand by "the sanction of the Church"; those who in future denied "the reality of the alleged phenomena of witchcraft" would contradict an affirmation of its supreme Pontiff.

The writer did not intend to suggest that such beliefs are current among Catholics of the present day or form part of Catholic dogma. E. WITHINGTON.