Baglioni. It gives a rapid summary of ethnology and anthropology—good in its way, but, owing to shortage of space, too compressed to be of real value. The point is emphasised that modern sociology shows a marked tendency to state and solve its various problems in terms of physiology.

To Prof. Pembrey is due hearty congratulations for the judicious and careful way in which he has edited the volume. It must have required endless patience and time. The translation is good, and the number of actual errors detected but few. The publishers have produced a book of pre-war standard in paper, printing, illustrations, and binding. It is a pity, however, that a complete index for the five volumes was not incorporated in this concluding volume.

E. P. C.

Principles of Electrical Engineering.

Electrical Engineering. By Dr. T. F. Wall. Pp. xi+491. (London: Methuen and Co., Ltd., 1921.) 21*s*.

A SURVEY of the principles of electrical engineering intended for students in universities and the advanced classes in technical schools is given in this book. The author's treatment of the subject can be commended, although in places the condensation will make it difficult for the uninitiated to follow his reasoning. He begins by a careful discussion of electrostatic theory, proving, in some cases by novel methods, the capacity formulæ which are used by engineers. He describes how the dielectric is sometimes graded in high-tension cables, and shows how the requisite calculations to find the electric force in the dielectric can be made. No mention is made, however, of the severe limitations imposed on the use of intersheath methods of grading by the large capacity current which flows in the sheath. The corona effect is mentioned, but the formula given is not so accurate as that due to F. W. Peek. The formulæ for the sparking voltages between spheres are not given.

On p. 194 it is stated that the standard values for the resistance of copper at present in use are those found by Matthiessen. This is not the case. Electricians use the international standard of resistance for copper given in Publication No. 28 of the International Electrotechnical Commission. They also find it advisable to use three temperature coefficients: the "constant-mass" temperature coefficient, the volume resistivity and the mass resistivity temperature coefficients.

On p. 202 Newton's law of cooling is given as if it applied to radiation instead of to convection. It is deduced that the melting current of a fuse wire varies as the 1·5th power of the diameter instead of the 1·25th power, which follows from more accurate theory. On p. 381, l. 11, we take it that "two-thirds" is a misprint for "three-halves," as the capacity between two wires is obviously increased by bringing a third wire into the neighbourhood.

The author attacks the problem of practical harmonic analysis in the proper way. He takes the Fourier solutions for a_n and b_n, the coefficients of the cosine and sine components of the Fourier series, and computes their values by mathematical quadrature. Taking m ordinates for the half-wave, he writes:—

$$a_n=\frac{2}{m}\left[y_1\cos n\frac{\pi}{m}+y_2\cos n\frac{2\pi}{m}+\ \ldots\ +y_m\cos n\frac{m\pi}{m}\right],$$

and a similar formula for b_n. Taking $m=10$, he finds the first, third, and fifth harmonics for a given curve, and suggests that a similar analysis will give the higher harmonics. It should have been stated that more ordinates would have to be measured if the higher harmonics are to be determined accurately.

In our opinion the first and third harmonics are best determined by dividing the base of the positive half of the wave into twelve equal parts and then applying Weddle's rule. To make reasonably certain of finding the fifth harmonic accurately it would be necessary to divide the base into eighteen, or better twenty-four, equal parts, and draw the ordinates at the points of division. If we apply the author's method to a rectangular wave of height unity, we get $b_1=1{\cdot}263$ and $b_3=0{\cdot}393$. The true values, 1·273 and 0·424, are given by Weddle's rule.

A. R.

Semi-popular British Botany.

A New British Flora: British Wild Flowers in their Natural Haunts. Described by A. R. Horwood. Vol. 3, pp. xi+251+plates 18–31; Vol. 4, pp. xi+257+plates 32–49; Vol. 5, pp. xi+234+plates 50–64; Vol. 6, pp. xix+232. (London: The Gresham Publishing Co., Ltd., 1919.) 12*s*. 6*d*. net each vol.

THE first two volumes of this work were reviewed in NATURE of April 21 last, p. 232. Vol. 3 deals with flowers of the woods and copses, roadsides and hedges, while the fourth volume presents the flowers of "mountains, hills, and dry places," "lakes, rivers, ditches, and wet places," "waste places, gardens, refuse-heaps, village greens, farmyards, etc." While thoroughly unbotanical in that it scatters