Annuaire pour l 'An 1899, publié par le Bureau des Longitudes. Paris, Gauthier-Villars et Fils.

THIS little annual, with its mass of scientific information for a franc and a half and a slip containing a ready written notice for the reviewer, appears as usual in good time. One can hardly glance through its pages, filled as they are with numerical details of all kinds, without being impressed with the industry of scientific workers of this century. It would be an interesting employment for some statistician to make an estimate of the number of hours of work which have been devoted to obtaining the numerical results here given.

We note one or two changes from last year. The astronomical distances of the sun and moon from the earth have been altered so as to correspond with the solar parallax 8″.80; this value is probably very close to the true one. The table of small planets has been reduced in size by the omission of certain details. These and other changes necessary to bring the volume up to date will be found noted in the preface.

The four notices which accompany the volume are of more interest to the student of terrestrial and celestial phenomena than to the mathematician. The first, "Sur les ballons-sondés" by M. Bouquet de la Grye, tells mainly of the attempts which have lately been made by means of balloons and kites to obtain more information of the upper regions of the atmosphere. The second, "La géodésie moderne en France" by M. Bassot, contains an account of the rise, the decline, and the present activity of the French geodetic service. The third, "Note sur le sidérostat à lunette de 60^m de foyer et $1^m.25$ d 'ouverture, en construction chez M. P. Gautier," is an illustrated account of the large refracting telescope which is at present under construction and which will form one of the chief attractions at the Paris Exhibition of 1900. In the last, "Sur les travaux exécutés à l 'observatoire du mont Blanc en 1898," M. J. Janssen reminds us that the snow-bound observatory is being made use of, notwithstanding the many difficulties encountered by the hardy observers who venture to stay there for a short time each summer.

ERNEST W. BROWN.

L 'Ora Esatta Dappertutto, etc. By MICHELE RAJNA. Ulrico Hoepli, Milan.

THIS is a little volume of 130 pages devoted to simple explanations of the measurement of time. It contains maps and tables by means of which the true local time of

any place in Italy can be found when the hour of central Europe (used for civil purposes in that country) is known. Much astronomical information is also given. The map of Italy, which is divided into four parts for convenience, deserves especial commendation. The geographical details are very full and red lines drawn at intervals of a quarter of a degree of longitude, or one minute of time, show at a glance the local time difference between any two places.

ERNEST W. BROWN.

Formulario scholastico di matematica elementare. Per MARCO AURELIO ROSSOTTI. Milan, M. Hoepli, 1899. 18mo, pp. xvi + 191.

THIS compendium is prepared for use in the secondary schools of Italy; in the author's opinion it is representative of their methods, needs, and requirements; it thus possesses interest to the American reader in addition to the intrinsic value of its material. Its contents fall into four parts occupied with arithmetic, algebra, geometry, and trignometry, respectively. As is indicated by the title, formulæ and results alone are given; the book is in no sense didactic and all demonstrations are excluded.

The first part contains numerous tables, among which are those of all primes less than ten thousand; of the minimum divisors of integers less than ten thousand and not divisible by two, three, five, or eleven; of the eight perfect numbers less than the twenty-fourth power of ten; of the first twenty-six pairs of amicable numbers; of the squares and cubes of all integers from one to one thousand; of the first fifty powers of two, three, and five; of the square and cube roots, to five places of decimals, of all the integers up to one thousand. The great convenience to be gained by the universal adoption of the metric system in Italy is evidenced by the fact that twelve pages of the seventy devoted to this part are sacrificed to the different tables of weights and measures of twelve Italian states. This section concludes with various theorems in ratio and proportion, and the rules of interest, alligation, and false position.

The second part presents initially the laws of the operations of ordinary algebra. There is a curious inversion in notation when $b + ai$ appears as the symbol of the complex number. The elaborate tabular discussions of the solutions of linear and quadratic equations are so exhaustive as to be almost painful in their details. The usual properties of progressions, permutations, probabilities, indeterminate, exponential, and binomial equations are accompanied by col-