

It is not worth while to enter into the general nature of the work. It was elementary but original. One or two of the most interesting features, however, deserve mention. The author uses in one place the expressions  $\frac{1}{10} d'x$ ,  $\frac{1}{10} d'y$ , to represent these fractional parts of  $x$  and  $y$ , which leads Herr Bopp to suggest that this French symbolism might have suggested to Leibnitz his  $dx$ , an idea that is interesting even if far-fetched. He also goes more extensively into the theory of triangular numbers than had any of his predecessors, a fact which shows the influence of the Pascal-Fermat school and the overstepping of the traditional boundaries of geometry. Euclid's parallel postulate is passed with little question, for, he says, "elle a assez de clarté pour s'en contenter et ce seroit perdre de temps inutilement que de se rompre la tête pour la prouver par un long circuit," showing that his vision in this respect was no clearer than that of his contemporaries. He definitely asserts, however, the impossibility of solving the trisection problem by elementary geometry, "c'est à dire en n'y employant que des lignes droites et circulaires." Here, too, is found, five years before Pascal's publication, the latter's method of complete induction, a method which Maurolycus also understood long before either, but which was not generally appreciated. Such phrases as "it is necessary and sufficient" show that his thought was much ahead of the elementary writers of his period, while many of his proofs had a marked influence on the later French school. His generalization of propositions shed a new light on Euclid, and it is probably not too much to say that the French elementary geometry broke away from the Greek traditions largely through the influence of his initiative. The work closes with Arnould's contributions to the theory of magic squares, a contribution that was original and powerful, and exceeded in value anything of the kind that had been attempted before his time.

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*Annuaire pour l'an 1903, publié par le Bureau des Longitudes.*  
Paris, Gauthier-Villars.

THERE is, so far as we know, no scientific annual which contains anything like the amount of information which we find in the *Annuaire*. It appears to be an attempt to satisfy the needs of everyone except, perhaps, the pure mathematician. It con-