Leçons sur la Théorie des Nombres. Par A. CHÂTELET. Paris, Gauthier-Villars, 1913. x+156 pp.

THIS little volume consists, as the preface tells us, of the Peccot Foundation lectures in form substantially as delivered at the Collège de France in the second semester of the year 1911–12. Following the line of development given in his thesis, "Sur certains ensembles de tableaux et leur application à la théorie des nombres" (*Annales scientifiques de l'Ecole Normale Supérieure*, 1911), the author bases his exposition of the Dedekind theory of moduli and ideals largely upon the geometrical ideas of Minkowski and the so-called method of continued reduction of Hermite.

In the first chapter the algebraic foundation is laid by giving some necessary theorems concerning matrices and their relation to sets of forms, together with an all too brief account of Minkowski's theory of generalized distance. As in the thesis the term "*tableau*" is used throughout for a square matrix and the term matrix is employed to denote a rectangular array.

In the four following chapters the theory of Dedekind's moduli with its applications is studied in detail. If the sum and difference of two points be defined as in vector addition so that

$$(p_1, p_2, \cdots, p_n) \pm (q_1, q_2, \cdots, q_n) \\ = (p_1 \pm q_1, p_2 \pm q_2, \cdots, p_n \pm q_n),$$

the definition of a modulus of points in agreement with Dedekind's definition of a modulus of numbers follows naturally. It is then easy to show that the coordinates of the points of the simplest modulus of dimension m in a space of dimension n are given by the matrix equation

$$||p_1, p_2, \cdots, p_n|| = ||x_1, x_2, \cdots, x_n|| \times A,$$

where the x's are integers and A is a matrix with m rows and n columns. The modulus is said to be "type" if A exists with the elements of each row coordinates of a point of the modulus such that every point of the modulus is given by the matrix equation. The matrix A is called a "base" of the modulus. The criterion for a type modulus is that it has only a finite number of points all of whose coordinates are less in absolute value than a given number. In general there are only a finite