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Sammanfattning

The main objective of this paper is to provide a review of Lilavati, a work written in the 12th century by Bhaskara II, also known as Bhaskaracharyya. In his work, the author presents mathematical problems in a poetic form and most of these are to be regarded as recreational. Generally, and somewhat surprisingly, little concern is paid to the theoretical background of formulae anywhere in this work, the author instead concentrating on the mechanical application of the methods being described. Nevertheless, there are a number of problems from the epoch in which Lilavati was composed that may be solved by the application of modern algebra, especially indeterminate equations. In addition to an analysis of the mathematical problems presented in Lilavati, the present paper also provides an outline of the importance of Lilavati, and other work by Bhaskaracharyya, in the context of a number of significant events in the general history of mathematics. The second edition of the translation of Lilavati by Henry Thomas Colebrooke, with notes by Haran Chandra Banerji, comprising 13 chapters and an appendix, preserved in the original Sanskrit, has been used for the purposes of this paper. This text consists of 278 verses and deals with various subjects: tables, the number system, arithmetic operations, fractions, zero, rule of three, compound rule of three, mixture, interest, progressions, plane geometry and the measurement of geometric quantities, stacks, saw, etc. The perspective adopted in this paper is to focus in particular on the number zero and its function and Bhaskaracharyya's method of squaring a number, extraction of the square root by hand, the cube of a number, the cube root of a number, completing and forming perfect squares and dealing with problems in proportionality, principal and interest on money, permutations and combinations, arithmetical progression, geometrical progression, Pythagoras theorem, an invariant (lamba) perpendicular in geometry and pulverizer. Comparisons are drawn with modern mathematical methods and some general conclusions are drawn from these with regard to the contemporary relevance of the work of Bhaskaracharyya.