

commonly known and used. For persons who are not interested in things mathematical, as well as for those who are thus interested, *The Hindu-Arabic Numerals* furnishes information that is by no means current. The authors have given in concise form the history of the characters that every school boy of modern days learns to use in computation. Beginning with an account of the early ideas about these characters, the writers go on with the details of place value, the symbol zero, and the actual physical forms by which the numbers have been represented at various times. In chapter 5 is begun the account of their introduction into Europe. This westward aggression seems to have been very slow at first because the new numerals did not appeal to the traders and were regarded as a sort of novelty by educators. The complete acceptance of this really wonderful system finally took place in the sixteenth and seventeenth centuries.

J. V. MCKELVEY.

*Vorlesungen über darstellende Geometrie*, Band I. Dr. F. v. DALWIGK. Leipzig, Teubner, 1911. xvi + 360 pp.

DESCRIPTIVE geometry is presented in this book in a thoroughly instructive manner. A noticeable balance is preserved between what might be called theoretical and practical. Methods of treatment characteristic of pure geometry are used freely, but at the same time the technical use of the principles involved is given due attention. The frequent comparison of different methods of making a given construction is worthy of mention. Shadow construction is treated with excellent simplicity and completeness throughout the book. The treatment of the projection of the intersection of two surfaces is such as to give the beginner a good introduction to the theory of space curves.

In the latter part of the text, trihedral angles with applications to astronomy, surfaces of revolution, screw surfaces, stereographic projection, parallel perspective, and rectangular coordinates are taken up in some detail. The last section of the book is an introduction to mechanical drawing.

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