until certain other unprovable results of intuition are brought into play. Exactly what an external object consists of aside from its being a projection of an internal idea is not shown. And if the world as we conceive it is merely a projection of that which is wholly mental, then why so much struggling to prove the geometrical character of the world as we geometrize it? Or on the other hand, why such a certainty of its arithmetic as we arithmetize it?

The definition given by C. S. Peirce for mathematics has not been surpassed : "The study of ideal constructions (often applicable to real problems), and the discovery thereby of relations between the parts of these constructions before unknown." This implies the rôle of logic and of intuition in the architecture of this vast structure. And in a projection of two figures is A the projection of B, or B of A? Is the world framed according to the architecture or the architecture according to the world? Qui sait!

<div align="right">JAMES BYRNIE SHAW.</div>

Taschenbuch für Mathematiker und Physiker. 1909. Von FELIX AUERBACH. Leipzig, Teubner. 1909. xliv + 450 pp. 6 Marks.

THIS little pocket manual initiates a series of year books to be issued by the firm publishing it. They are to be congratulated upon their enterprise in furnishing the mathematical public what it has long needed. The engineer has his Trautwine, Kent, Kidder, or Foster, but so far the mathematician has had only collections of integrals, or small collections of trigonometric formulas. This volume, on thin but opaque paper, with typography which is delightfully clear, contains not only an excellent summary of the whole field of mathematics, but also a resumé of mechanics, physics, and physical chemistry. One is much surprised and pleased at the amount of valuable material compressed into so small a space, yet so easily found. The chief formulas and definitions are to be found here for arithmetic, algebra, group theory, combinatory analysis, determinants, series, differential calculus, integral calculus, definite integrals, calculus of variations, differential equations, transformation groups, functions of a real variable, functions of a complex variable, gamma function, elliptic integrals and functions ; principles of geometry, topology, planimetry, stereometry, goniometry, plane trigonometry, spherical trigonometry ; coordinate