

especially those intended for engineering students, seem to avoid mentioning such concepts rigorously. The closing chapter of the book, which gives the elements of the theory of functions of a complex variable, is another indication of this broadness of scope. Perhaps American engineers would not be so overawed by differentiation and integration processes if the mathematical foundations were broader.

T. H. HILDEBRANDT

*Les Erreurs Philosophiques de M. Einstein. Étude directe de la Relativité.* By G. Joly. Paris, Edition Spes, 1925. 64 pp.

Amidst the mass of temporary literature evoked by the contact between the enthusiastic disciples of Einstein or of his competitors, and the perturbed conservatives of the older schools, this little book finds a natural place. It is an attack vigorously directed against the body of Einstein's conclusions.

The author cordially concedes that all of Einstein's formulas and equations are to be accepted as "guaranteed by several of the most eminent specialists," and a large part of this small book is devoted to the effort of establishing (for the restricted theory) these very formulas upon the basis of classical mechanics. A distinction is drawn between the mathematical calculations and the philosophical conclusions and the latter are rejected *in toto* by this author. The author admits what he calls the *fact* of relativity, which he claims consists in the circumstance that linear measurements reveal nothing concerning actual locations, but only relative distances. In fact he asserts incidentally that "*no point is at rest in the universe*" (italics quoted). However the author insists that the establishment of one of the formulas which he accepts as do the relativists "supposes *implicitly* comparison with a system fixed in absolute space, where lengths and times have an absolute measure". "Relativity has no sense except by comparison with the absolute, it presupposes the latter and may be deduced from it. In denying this reality, M. Einstein is led to a conception which 'is not expressible in words but only in mathematical formulas.'" "The perturbations rightly signalized by M. Einstein are most of the time so slight as to elude experimental verification. . . . There is no need of a special theory to correct aberrations due to these relative movements. . . . It suffices to take account of their causes in laying down the equations."

The modern student of relativity may find interest in some of the simple methods used here in discussing the elementary features of the restricted theory, but the book seems chiefly designed to aid and comfort those who cannot dispute mathematics with Einstein but who would like to feel that the old Newtonian system is as good as ever.

A. A. BENNETT