of vectors. He uses essentially the derivative dyad $d\sigma = d\rho \cdot \sigma$, that is, the dyad σ. It is now easy to define divergence as the average value of the scalar $\alpha \cdot \sigma \cdot \alpha$ over the surface of a unit sphere, α being any unit vector of variable direction. This gives of course what is commonly written $\cdot \sigma$. In the same manner the average value of $\alpha \times \varphi\alpha$ (where $\varphi\alpha = \alpha \cdot \sigma$) over the surface of the unit sphere, gives the curl. This would be the same as $\times \sigma$. There is nothing new in these definitions, as they have been given in one form or another before. A development of formulas that are useful follows.

Part II of 33 pages discusses the steady motion of a solid under no forces in liquid extending to infinity. Some of the well known results are reached. Towards the latter part of the section he considers certain cases of stable motion. The general problem is rather intractable, and the author is content with stating some conclusions of the simplest case. He finds that for this simple case, the two steady motions for which the screws are parallel to the greatest and least axes of a certain ellipsoid, are stable; that steady motion for which the screw is parallel to the mean axis is unstable.

J. B. Shaw.

An Introduction to the Theory of Relativity. By L. Bolton. New York, E. P. Dutton and Company, 1921. ix + 177 pp.

This little book gives a remarkably readable and intelligible account of the theory of relativity. It is by the author of the prize-winning essay in the contest recently conducted by the Scientific American. The author admits at the outset the impossibility of giving any sort of adequate notion of the theory of relativity without the use of mathematical ideas and symbols. He has set himself the task, however, of presenting his material without presupposing more than elementary algebra and the elements of plane geometry. As a result he finds it necessary to introduce the reader to the notion of the differential of arc, and in so doing brings back to life the "little zeros." There is also (p. 126) a footnote implying that cones and cylinders are the only developable surfaces. Such incidental blemishes may, however, be excused in view of the book's purpose and the extraordinarily satisfactory way in which this purpose has been carried out.

J. W. Young.

Geometria Analytica. Part 1. *Il Metodo delle Coordinate.* By L. Berzolari. Second edition. Milan, Ulrico Hoepli. xiii + 495 pages.

This work belongs to the excellent series of manuals of the firm of Ulrico Hoepli. It aims to define the principal systems of coordinates in space of one, two and three dimensions and to derive the principal theorems and formulas of analytic geometry connected with them. It discusses in detail Cartesian coordinates of points, of lines in a plane and of planes in space. It further deals with homogeneous coordinates, and the fundamentals of analytic projective geometry. Equations of curves and surfaces are properly treated briefly. A short but well-selected appendix on vector analysis is added to this edition. Such topics as line coordinates in space and coordinates of spheres do not fall within the scope of this