these, no doubt, must have been really operative in accounting for some amount of repetition with minor variations of expression. Nor should we forget, as Prof. Cook Wilson seems to do on page 93 at least, that there really is "ancient tradition" at least for the view that Aristotle did not make "copies for publication" of the *Physics*, *Metaphysics*, or *Ethics*.

A. E. TAYLOR.

Uber de- Einfluss Newtons auf die Erkenntnistheorie seiner Zeit. Von H. G. STEINMANN. Friedrich Cohen Pp. 81.

This little book is divided into four sections. The first deals with the nature of Newton's physical and metaphysical principles, and the historical setting in which they appeared The remaining three deal with the influence of Newton's theories on his contemporaries or immediate successors in England, Germany, and France respectively.

Newton's expressed objection to hypothesis was really only an objection to the invention of corpuscular explanations based on a desire to reduce all physical action to pressure and impact, which were supposed to excuse a man from further examination as to the exact laws that motions obey. His actual method was hypothetical-deductive; you started with principles, deduced consequences mathematically, and then verified them. Nor was Newton averse to corpuscular theories as such, as his *Optics* shows; all that he disliked was (1) their gratuitous introduction to save *a priori* prejudices about the nature of interaction, and (2) their introduction as a general qualitative explanation without definite numerical values being assigned and results being mathematically deduced from these and the general laws of motion. Newton, according to Dr. Steinmann, left two very weak places in his system: (*a*) the doctrine of absolute time and space, and (*b*) the making of these an essential part of even pure mathematics,—*e.g.* space in geometry, time in Fluxions. Newton seems to have taken time as *the* independent variable *par excellence* and yet his definition of absolute time is circular.

It was on these points that successors fastened. Berkeley's attacks in the tract *De Motu* and in the *Analyst* on the whole spring from too radically opposite a view to be of great value; for Berkeley thought immediate sense experience so certain that hypothetical explanations of it by what could not be directly perceived were a mistake. But he made the criticism that absolute space is indistinguishable from mere nothing which other philosophers have made; and he has some perfectly valid criticisms on certain incautious expressions of Newton about the nature of a differential coefficient. Since Berkeley admitted the volitions of God as the causes of our sensations and of their law-abiding character, I do not see why he should not have accepted the Newtonian mechanics as an account of the laws to which out of benevolence to us God subjects certain of His volitions.

Leibniz in the letters to Clarke concerns himself partly with the question of space as the Sensorium of God, but mainly with an attempt to refute absolute time and space from the doctrines of the identity of indiscernibles and the principle of sufficient reason, and a rejection of *acto in distans* as irrational. Dr. Steinmann thinks he was right in the former and wrong in the latter undertaking. But he chides Leibniz for accepting the relativity of space and yet trying to keep the distinction between absolute and relative motion by the question of whether a body had or had not moving force in it. Whilst one cannot admire Leibniz's expedient, I should be inclined to say that its introduction only showed

that Leibniz's knowledge of the laws of mechanics had convinced him that something corresponding to Newton's distinction was essential, and he naturally made the distinction fit in with his general metaphysical theories.

Dr. Steinmann has some very interesting remarks about the influence of Newton on Wolff, who appears not to have been nearly so black a rationalist as he has been painted by Kant. He definitely preferred Newton's theory of attraction to Leibniz's, and his own idea of scientific method was not very different from Newton's, but has been misrepresented because he used the word *a priori* not as Kant used it but as we should use the word deductive. I am not acquainted with Wolff's writings, but as Kant certainly misrepresented both Leibniz and Hume, it is not unlikely that he also made mistakes about Wolff.

In France Newton's earliest converts were Voltaire and Maupertuis; but by far the most important was D'Alembert. To him we owe the general application of Newton's principles to rigid bodies, and he also discussed the nature of space and the measurement of time. He made a definite separation of pure from applied mathematics, considered algebra the most general and certain discipline, and freed mechanics from the exclusively geometrical treatment which Newton had used, and, on theoretical grounds, recommended.

There are several misprints in the book. Pages 22 and 23 are in the wrong order; and there is a bad printing muddle on page 62, a line being repeated.

C. D. Broad.

Der Gottesgedanke in der Geschichte der Philosophie. Dr. H. Schwarz. Erster Teil. Von Heraklit bis Jakob Boehme. Heidelberg, 1913. Pp. viii, 612.

The present volume forms the first part of a learned and eloquent work which, when completed, will apparently trace the history of the notion of God in the philosophers and theologians from the dawn of Greek speculation to our own days. The detailed study which Prof. Schwarz gives to the mystical writers, from Dionysius "the Areopagite" onwards, will make his book of real value to students of the history of *Religions-Philosophie*, who can hardly be expected, as a general rule, to master the enormous literature of mysticism for themselves. And, speaking more generally, I have found Dr. Schwarz always suggestive, if not always convincing, in his estimate of the religious aspect of the world-philosophies. I think, however, he often gives the impression of being swayed by an undue desire for neat logical systematisation. His classification of the different types of *Gottesbegriff* corresponding to the specific functions assigned to God in the various philosophies is luminous and instructive, but one cannot help doubting whether great philosophers have commonly kept to a single point of view in their use of the notion of God. Have not they, like other men, commonly sought the satisfaction of more than one kind of need in the thought of God? Thus it is, *e.g.*, true in the main to say that whereas with Plato, as with Prof. Varisco in our own day, it is the feeling for ethical values which gives his Theism its peculiar character, in Aristotle God figures mainly as the solution of a cosmological problem. For Plato God is, in the first instance, the "captain of our salvation," for Aristotle He is "the Great First Cause". But one puts the contrast in too sharp a form if one forgets that Aristotle also holds that "the really good" is the object of all natural and unperverted appetition, and for Plato God has a cosmological significance, and is not