

ness by the sameness of perceptible qualities. If we speak of the same (*gleich*: "in itself," we cannot possibly lay down any rules for its behaviour. It might be like Proteus, changing without a change of conditions. (I do not agree that Proteus did so; the failure of previous struggles was a new condition.) This is "a proposition which holds *a priori* for the whole province of reality" (p. 75). But it "says nothing at all of identity and difference 'an sich'". Is not the distinction futile?

The author holds unusual views in many ways. He supports Croce against I-gistic; he casts doubt on the whole evolutionary theory of descent (not merely on Natural Selection); he assumes an unthought datum of perception (against the Marburg neo-Kantians); he denies the possibility of a *SelbstZweck* on the ground that action directed to it must be action without an interest; he seems to favour some sort of voluntary creation as at the root of the original physical universe (p. 197); he attacks Husserl for Psychologism, because he calls "evidenz" an *Erlebnis*; and his views of deductive inference we have already noted. He deals at some length with matters of scientific theory, for example with the problem of a single time-order in the universe, the difficulties of which he considers merely practical and not ultimate. The book is interesting, and something of an oddity.

BERNARD BORANQUET.

Ursache und Bedingung: Widerlegung des Konditionalismus und Aufbau der Kausalitätslehre auf der Mechanik. GUSTAV HEIM. J. A. Barth. Pp. 62.

This pamphlet criticises the views of the physiologists Verworn and v. Hansemann on Causation. Verworn wished to replace the notion of cause by that of condition. He argues that all conditions are equally important and that they are not mutually substitutable. The author replies that importance is quantitative and necessity not; and that it is impossible to argue that, because all conditions are necessary, they are all equally important. And he gives examples where substitution seems possible. His arguments here seem to me sound; it is clear that, if you take a limited and abstract effect (as you must to make any use of causal laws), it may have various conditions.

Heim admits the difficulty of distinguishing between cause and conditions; but he undertakes to do it. He takes the case of a billiard-ball hit with a cue and concludes that the genuine cause is the moving arm and cue, because these produce all the further changes. Friction, elasticity, etc., are conditions which determine the subsequent effects produced by the moving ball, whilst there are of course preconditions and causes of the motion of the arm. I do not see that Heim makes out his case here. In the first place the energy in the blow (in the mechanical sense) does not determine the direction. Again the path of the ball surely depends also on the question whether the table is level or not. Heim would probably call this a subsequent cause that acts on the ball; but then there is no interval between its action and that of the cue, and Heim fails to notice that a causal process cannot be divided up into contiguous events, owing to its continuity. The essence of the distinction between the blow and the other conditions seems to me to be this. No combination of the other conditions produces any kind of motion without a blow, but a blow nearly always produces some motion however the other conditions be filled in. Now the other conditions are often fulfilled apart from a blow, but a blow never exists without some of the other conditions being filled in somehow. Thus we come to take the blow as more directly concerned with the motion than the other conditions. Heim approaches this

position in his account of why he calls the tubercle-bacillus the cause of consumption, and such factors as bad ventilation only conditions.

The author holds that the same cause will always have qualitatively the same effect, whatever may be the conditions; and that this is a distinction between causes and conditions. This constancy is certainly the essence of any law, causal or otherwise. What he should further have noticed is that the notion of same cause and same effect involves that both are abstract; the further filling in of the detail of the effect is due to a further filling in (itself abstract) of the detail of the cause; and the relations between these two sets of abstract details, taken by pairs, are themselves unconditional in a true causal explanation. Thus no ultimate distinction between cause and condition is reached from these considerations.

He rejects the view that the cause is quantitatively equal to the effect, but holds that it is proportional to it. This he is able to do, he thinks, because he takes, in mechanical examples, a force as cause and the work done as effect. He further uses the word *work* for all changes that are effects. To this argument there are two objections. (1) *Unless* you can reduce all interactions to pure mechanics it is not clear what will be the measure of work in the wider sense in which he uses the term. (2) There is a difficulty even in mechanics. He rests his assertion on the equation $W = Fs$. But suppose the force is variable. Then we only have $dW = Fds$. He must then either admit infinitesimal causes and effects, or, if he takes the integrated form $W = \int Fds$, give up his rule of proportionality as universal, even in mechanical transactions. All attempts to discover a uniform quantitative relation between cause and effect in general seem to me in fact to be quite hopeless.

Heim is concerned to show that a cause is never a change but is a thing. He makes some good points against Wundt's opposite view. What I think is true is that a cause is usually taken to be a thing in a certain state. We say indeed that a stone breaks a window, but we mean that a moving stone breaks it. And we should hardly say that the motion of the stone breaks the window. Finally he congratulates himself on the absence from his definition of cause of 'mystical or metaphysical elements'. Since an essential element in his definition is that of 'production' of work, and since this obscure notion is nowhere explained, such self-congratulation seems premature.

This little book, as I have tried to show, is somewhat of an amateur effort; there are a great many subtle distinctions needed in dealing with Causality which the author has not noticed; and, even when they are recognised, great difficulties remain. But it is distinctly interesting, and the examples from medical facts—so unusual in philosophic writings—give it a certain freshness.

C. D. BROAD.

"Sitzungsberichte der Kais. Akademie der Wissenschaften in Wien Philosophisch-Historische Klasse," 170 Band, 10 Abhandlung. *Andreas Fricius Modrevius. Ein Beitrag zur Geschichte der Staats- und Völkerrechtstheorien.* Von WLADISLAUS MALINIAK, Juris publici doctor. (Vorgelegt in der Sitzung am 13. März, 1912.) Wien: In Kommission bei Alfred Hölder, k.u.k. Hof- und Universitäts-Buchhändler, Buchhändler der kaiserlichen Akademie der Wissenschaften. 1913. Pp. 200.

Problems of concrete politics peculiar to the time and place are responsible for so much in the political speculation of Polish writers in the sixteenth century and earlier, that although accessible in Latin it has been largely ignored or misunderstood. It is however this intimacy of its relation