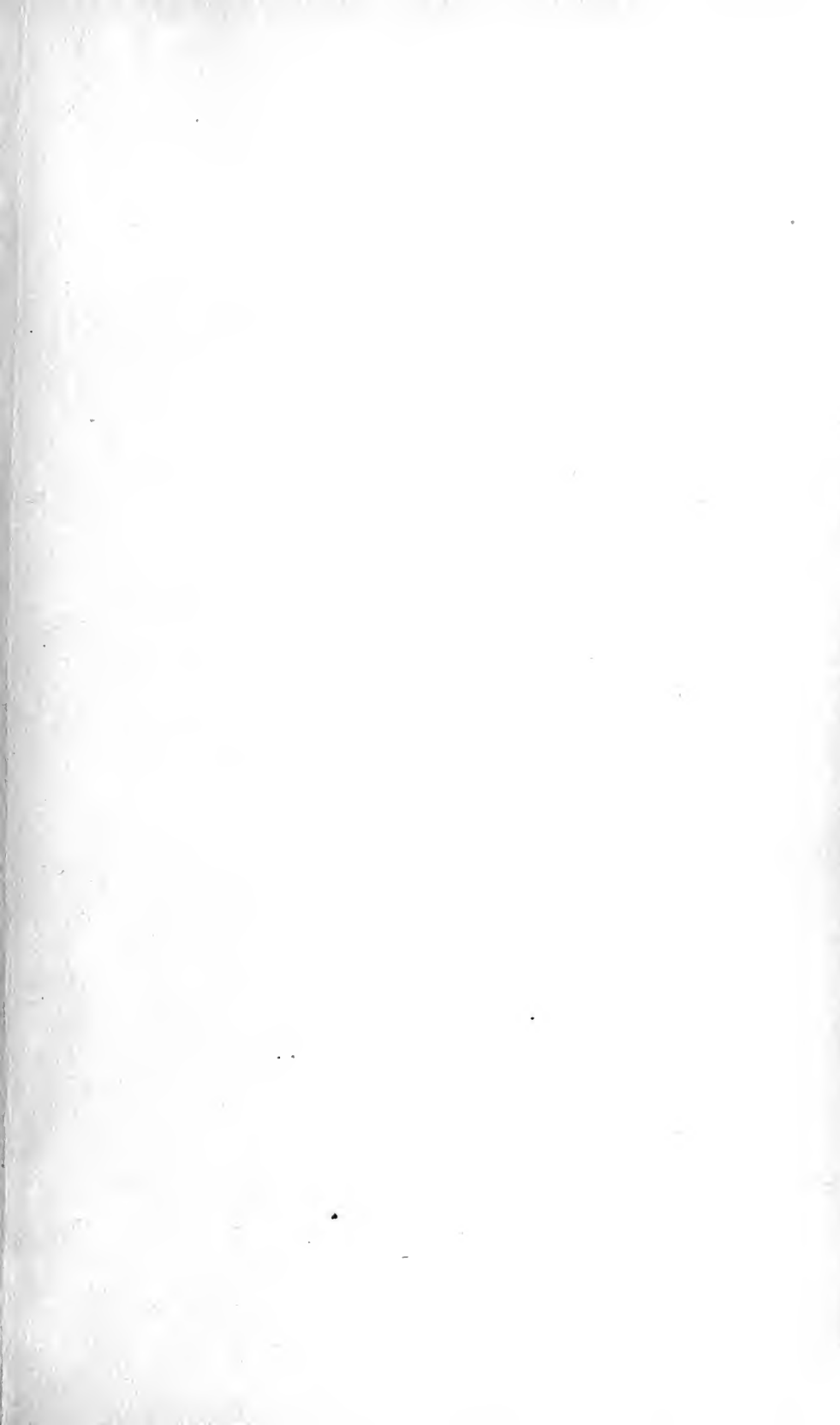
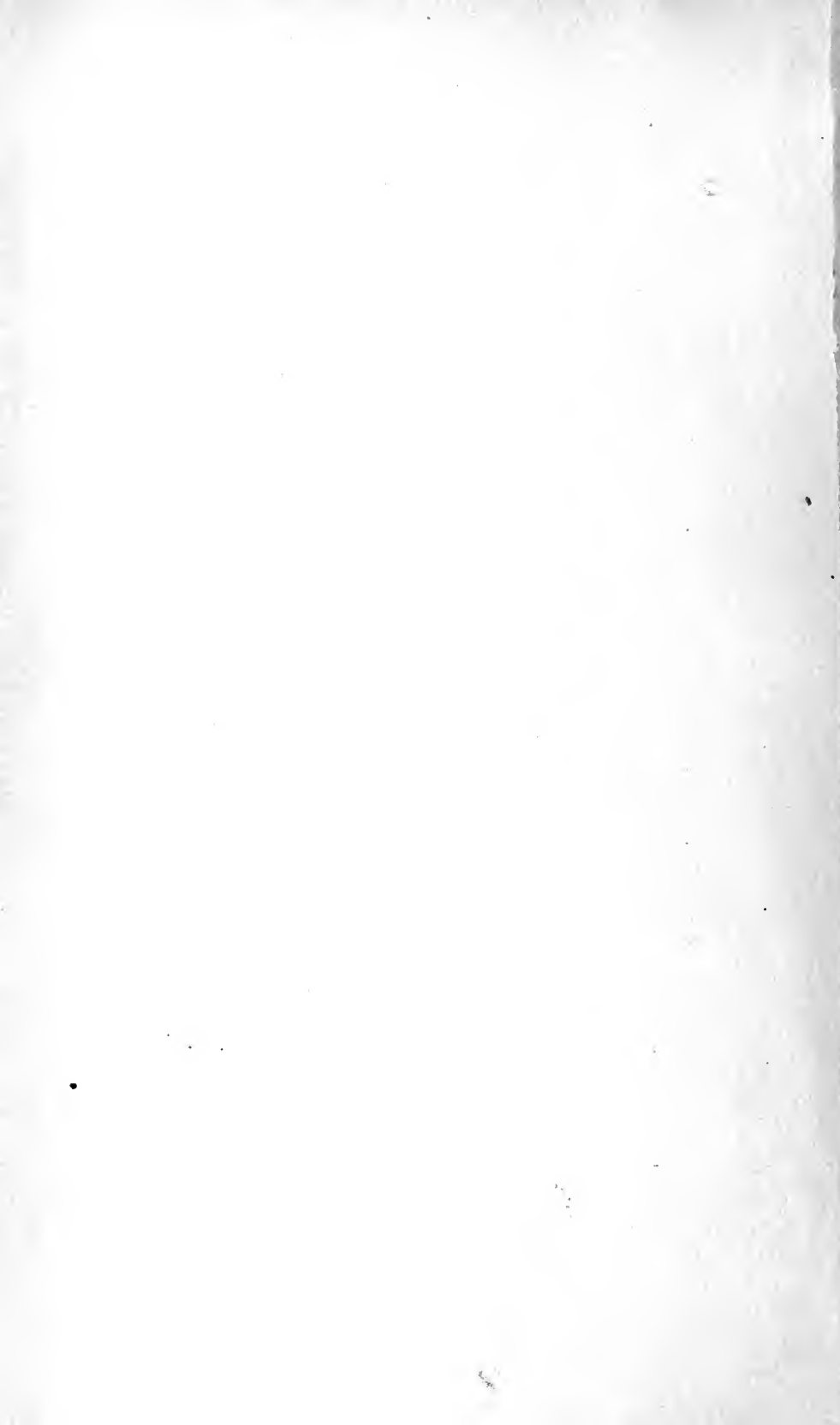




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THE  
PHILOSOPHICAL REVIEW

EDITED BY  
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OF THE SAGE SCHOOL OF PHILOSOPHY, CORNELL UNIVERSITY  
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THE  
PHILOSOPHICAL REVIEW.

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ARISTOTLE'S POSTERIOR ANALYTICS: I.  
DEMONSTRATION.

LIKE other works of Aristotle, the *Posterior Analytics* has had an influence upon the history of human thought out of all proportion to its length. Within a comparatively short compass the author succeeds in giving a tolerably complete and systematic statement of the processes by which scientific truth is reached. The main object of the treatise, it is true, is to explain the conditions under which the necessary conclusions of science may be drawn, a fact which naturally gave countenance to the doctrine that truth is reached by a deductive process. A careful examination, however, shows that the preëminence assigned to deduction cannot be justified by the contents of the work itself, in which the necessity of induction as an indispensable preparation for the deductions of sciences is everywhere kept in view, and indeed expressly stated. The treatise is so interesting in itself, and so valuable for the light it throws upon the philosophy of Aristotle in general, and especially upon his *Metaphysic*, that it may not be superfluous to give a summary of its main contents, and to attempt some estimate of their value.

"All teaching and all learning of a reflective character," Aristotle tells us, "start from knowledge that we already have."<sup>1</sup> As we learn from a passage in the *Ethics*,<sup>2</sup> the "teaching and learning" here referred to proceed either by induction or by syllogism; for, it is by induction, as Aristotle goes on to explain, that we obtain universal propositions, and it is from these uni-

<sup>1</sup> Post. Anal., 71<sup>a</sup> 1-2.

<sup>2</sup> Nich. Ethics VI, 3, 1139<sup>b</sup> 26-29.

versal propositions as premises that syllogism draws its conclusions. Thus both induction and syllogism start from knowledge that we already have; the former being evolved from the perceptions of sense, and the latter from the premises supplied by induction. These two processes, as Aristotle points out in the present work, are common to dialectic, rhetoric, and the sciences. The proper subject of the treatise, however, is the method of science, and hence the two former methods of "teaching and learning" are referred to merely in order to show that reflection follows the same path in all cases, bringing forward universal propositions derived by the mind from perception, and deducing conclusions from them. Aristotle therefore at once proceeds to ask what is the character of the data with which science starts, and how from them the truths which constitute it are derived.<sup>1</sup>

The view just stated of the relation of science to induction is Aristotle's substitute for the *ἀνάμνησις* of Plato. According to the doctrine suggested in the *Meno*, learning is not the acquisition of knowledge for the first time, but the recollection of what we already know. Aristotle, on the other hand, maintains that we have no knowledge whatever prior to sensible perception, no knowledge of the universal prior to induction, and no scientific truth prior to the deductions drawn from the premises supplied by induction. Thus the difficulty raised by Plato, that we either learn nothing, or only what we knew beforehand, is solved, when we see that we may know universal principles, and may yet be ignorant of the conclusions involved in them, until these are brought to light by the deductions of science.<sup>2</sup> Nor can we accept the doctrine that the only truth which is possible for us is limited by the number of individual instances that have come under our observation; on the contrary, the principles from which science draws its conclusions are universal, and so also are the conclusions derived from them. From arithmetic we learn, not that all the 'twos' we have *observed* are 'even,' but that every possible 'two' must be 'even.' Nothing less than this will satisfy the demands of science.<sup>3</sup> In other words, 'science' (*ἐπιστήμη*),

<sup>1</sup> Post. Anal., 71<sup>a</sup> 1-11.

<sup>2</sup> *Ibid.*, 71<sup>a</sup> 11 ff.

<sup>3</sup> *Ibid.*, 71<sup>a</sup> 30 ff.

in the strict sense of the term, is the knowledge of the 'cause,' or of that which 'cannot be otherwise.' Now, knowledge of this kind is obtained by means of demonstration (*ἀποδείξις*), or scientific syllogism, the data of which are supplied by induction. The character of those data may be deduced from the conclusions which have to be reached. If the judgments of science predicate what is necessary, the premises must be such as by a valid logical process will yield judgments of that kind. In the first place, therefore, the premises must be *true*. And this means that they must state what belongs to the actual nature of things; for the test of a true judgment is never in Aristotle the mere impossibility of thinking the opposite, but its conformity to the object; a judgment is true when it combines in thought what is combined in the thing, or separates in thought what is separated in the thing. The reason why the judgment, "The diagonal is commensurable," is false, is that it affirms a connection of subject and predicate which contradicts the actual nature of the diagonal. In the second place, the premises of a demonstrative syllogism must be *primary* or *indemonstrable*. For, if this is not admitted, we either fall into an infinite series, and therefore never reach an absolute conclusion, or we are forced to hold the equally untenable doctrine that nothing is true except what can be demonstrated. There must, then, Aristotle contends, be certain immediate or primary truths, which by their very nature are indemonstrable, and without which no demonstration, and therefore no science, is possible. In the third place, our premises must contain the *ground* or *cause*. For, as we have seen, the judgments of science are in all cases necessary, or express the 'essence' or 'ground' of a thing. Hence the premises must be 'better known' than the conclusion and 'prior' to it. This does not mean that, in the order of our knowledge, we start from what is, in the sense indicated, 'better known'; on the contrary, we begin with particular perceptions of sense, and only at a latter stage advance to the universal. What we mean by saying that the premises of science are 'better known' than the conclusion, is that they contain the determination of the 'necessary' characteristics of a thing, and therefore the 'cause' or

'ground' why it is what it is. As such they are *logically* 'prior' to the conclusion, forming as they do the indispensable presupposition of the conclusions reached in science.<sup>1</sup>

To understand more fully the nature of the premises from which the necessary truths of science are deduced, there are certain terms which must be defined. (1) When a proposition is said to be true 'without exception' (*κατὰ παντός*), we mean that it is true of every member of a class, and of every member of that class at all times. Thus, if it is true that "every man is an animal," it is also true that every person who can be called "man," may also be called "animal"; and if at any given moment he is the one, he must also at the same time be the other. (2) By 'essential' (*καθ' αὐτό*) it is meant that a certain element is included in the very conception or definition of a thing. Aristotle distinguishes two cases in which this principle holds good; for either a certain property is 'essential' to the definition of the subject, or the subject to the definition of the property. We cannot define a 'line' without including the 'point,' and we cannot define 'straight' without including the 'line.' Again, when a property is predicated of an individual, it is said to be predicated 'essentially,' whereas a property which is not predicated of an individual, but of something which presupposes an individual, is said to be predicated 'accidentally.' In the judgment, "Socrates walks," the predicate belongs to the subject; but in the judgment, "the white walks," the predicate does not belong to the subject, but to something else not expressed — ultimately, an individual. In the one case we have 'essential' predication, in the other 'accidental.' Lastly, that is said to be 'essential' which involves a causal connection; as, *e. g.*, when a victim dies by the stroke of the sacrificial knife. These two last cases do not satisfy the requirements of strict science. The former only yields judgments which predicate a property of the individual, and from singular judgments no universal conclusion, such as science demands, can be derived. The latter, again, only gives us judgments which are conditionally necessary, whereas strictly scientific judgments are true at all times. Thus, as Aristotle himself

<sup>1</sup>*Post. Anal.*, 71<sup>b</sup> 9 ff. Cf. 72<sup>b</sup> 5 ff.



points out,<sup>1</sup> there remains only the case in which a property belongs to the very conception of the subject, or the subject to the definition of the predicate. (3) There is a third term, the 'universal' (τὸ καθόλου), which introduces a further limitation. Any predicate is 'essential' which is involved in the definition of the subject, or involves the subject in its definition. Thus, in the judgment, "man is an animal," the predicate 'animal' is part of the definition of 'man,' and as such is 'essential'; but the judgment is not in the strict sense 'universal.' To be 'universal,' a judgment must state that which is true (1) 'without exception' (κατὰ παντός), (2) 'essentially' (καθ' αὐτό), (3) of a class 'as such' (ᾧ αὐτό). Now, to be true of a class 'as such' is to be true of a primary subject, and therefore true 'essentially' and 'without exception'; but a predicate may apply to every member of a species without exception, or it may be part of the definition of a species, and yet, it may not be true of the genus or class 'as such.' The judgment that "the isosceles triangle contains two right angles" is true of all isosceles triangles, and the predicate is part of the definition of the subject; but it is not 'universal,' because 'isosceles triangle' is not the 'primary subject' to which the property of having two right angles belongs. In short, we only obtain a truly 'universal' judgment, such as is required in scientific demonstration, when subject and predicate are convertible; in other words, when we have assigned the 'cause' or 'ground' of a thing. Hence Aristotle refuses to admit that we can reach scientific truth *per enumerationem simplicem*. Even supposing it could be proved of each species of triangle separately — equilateral, scalene, and isosceles — that its angles are equal to two right angles, we should not know it to be true of the triangle 'universally,' and therefore we should not know whether there might not be some other kind of triangle of which it was not true. The necessary basis of a scientific syllogism is, therefore, a major premise which predicates an essential attribute belonging to the primary subject. When this is the case, subject and predicate must be coextensive. No doubt the special sciences make use of premises that are not 'univer-

<sup>1</sup> *Op. cit.*, 73b, 16-18.

sal'; but these, as we shall immediately see, are not in the strict sense 'scientific,' because they only prove the 'fact,' not the 'cause'; and proof of the 'fact' is only a step towards the end of science, which is demonstration of the 'cause.'<sup>1</sup>

The basis of a demonstrative syllogism, then, must be a truly 'universal' principle. This is obvious, if we consider that science in the strict sense consists entirely of necessary conclusions. You can infer that an isosceles triangle contains two right angles, granting that "the triangle as such" has this property; but no such conclusion can be drawn, unless the major premise is, in the sense defined, 'universal.' In other words, the middle term must contain the real 'ground' or 'cause.' If the middle term is not necessary, it may cease to be predicable; hence what was true may cease to be true; and obviously, from what may not be true, no absolute conclusion can be drawn. On the other hand, when the middle term is necessary, the conclusion must also be necessary, and such necessary conclusions constitute science. Our result then is, that both the premises and the conclusion of a demonstrative syllogism must be necessary; while the middle term, on which the conclusion is based, must contain the real 'ground' or 'cause' of the subject, or, what is the same thing, the attributes which belong to it in itself, and therefore to every member of the primary genus under consideration.<sup>2</sup>

The premises of a science, then, are true and primary, and they contain the 'cause' or 'ground' of a thing. But, while these are the characteristics of all the premises employed by science, there is a distinction in the character of the premises themselves, to which it is necessary to refer. From Aristotle's point of view, there is no single science which contains the whole body of scientific truth. It is true that first philosophy or metaphysic has as its object the highest principles of being; but, on the other hand, those principles do not enable us to determine things in their concrete or specific character. Thus, metaphysic has, as one of its tasks, to show that the laws of contradiction and excluded middle admit of no possible exception, and there-

<sup>1</sup> *Op. cit.*, 73<sup>a</sup> 21-74<sup>b</sup> 4.

<sup>2</sup> *Ibid.*, 74<sup>b</sup> 5 ff.

fore must be presupposed in every one of the special sciences. On the other hand, each of the special sciences employs these laws only in so far as they apply to the special 'class of being' with which it deals. While, therefore, Aristotle calls them 'common' principles, he is careful to add that they are not taken in their abstract generality by the special sciences, but only in their specific application to the subject under investigation. And the same remark holds good of another class of 'common principles' or 'axioms,' viz., those which apply, not indeed to all kinds of being, like the laws of contradiction and excluded middle, but to the objects of two or more sciences. Of this character is the axiom that "if equals be taken from equals, the remainders are equal," a principle which is common to arithmetic and geometry. But here again the axiom is not employed in its complete generality. In arithmetic it is interpreted to mean, that "if equal numbers be taken from equal numbers," etc., whereas in geometry it means that "if equal magnitudes be taken from equal magnitudes," etc. In actual use, therefore, the axioms are not really 'common' principles, but in their specific sense, as employed in a particular science, are special or determinate principles.<sup>1</sup>

This view of the so-called 'common' principles is in accordance with Aristotle's whole view of things. For him there is not a single 'kind of being,' but various mutually exclusive spheres of being, each of which is the object of a particular science. Hence, when he is laying down the conditions of science, he tells us that it involves three things: (1) The class of being, which is the object of a particular science, (2) the axioms or principles from which we argue, (3) the conclusion, which states an essential determination of the class under investigation. It is therefore an illegitimate procedure for any science to pass out of its own proper sphere. There are certain absolutely irreducible 'kinds of being,' each of which has its own special determinations; and therefore the geometer can no more apply to magnitudes the properties of numbers than the arithmetician can characterize numbers by the attributes essential to magnitudes.

<sup>1</sup> *Op. cit.*, 75<sup>a</sup> 38; 76<sup>a</sup> 30; 87<sup>a</sup> 38.

There must be no *μετάβασις εἰς ἄλλο γένος*, on pain of illogical and unscientific reasoning. It is therefore natural for Aristotle to point out that the 'common' principles are in practice really 'special.' The employment of so-called 'common' principles is therefore no real violation of the doctrine that science must contain only 'universal' judgments; for the axioms, as interpreted by the special sciences, express what is 'essential' to magnitude or number 'as such,' and what is true of every magnitude or number at all times.<sup>1</sup>

Each of the special sciences, then, assumes the truth of the common principles or axioms in the limited sense required for its special purpose. No doubt these principles may be called 'special,' since, in the meaning assigned to them by a given science, they are not applicable to any other science; but, as in the wider sense they express the principles common to all being, or at least to more than one 'kind of being,' Aristotle distinguishes from them the principles which are peculiar to a given science. These are 'theses,' *i. e.*, they are 'posited' by the science. They state the primary characteristics of the 'class of being,' with which the science deals, and therefore at once define it and affirm the existence of the object defined. A principle of this sort is called a "postulate" (*ὑπόθεσις*). Thus geometry not only presupposes the definition of 'magnitude,' or 'point' and 'line,' but it postulates the actual existence of 'magnitudes' or 'points and lines.' The 'point,' *e. g.*, is defined as 'that which has no extension,' or 'that which is indivisible'; the 'line' as 'that which has only one dimension'; and geometry assumes that there are real 'points' and 'lines' corresponding to these definitions. The special principles or postulates, therefore, agree with the common principles or axioms in presupposing the truth or reality of their object. Unless the truth of the special principles is assumed, the science to which they belong has no premises from which 'universal' conclusions may be drawn; for these principles, as primary determinations of a certain 'class of being,' do not admit of demonstration. Assuming them, however, it is possible to advance to the concrete determination of the

<sup>1</sup> *Op. cit.*, 76<sup>b</sup> 13 ff.

genus; and the problem of a given science is just to deduce, by means of demonstrative syllogisms, by the aid of induction, the totality of the essential properties, modifications, and functions of the class of being with which it deals.<sup>1</sup>

Besides these special principles or postulates, each science employs another species of 'theses' viz., those which agree with the 'postulates' in being definitions, but differ from them in not being presupposed as data of the science under investigation. This class of definitions comes to light in the course of the demonstration, and therefore presupposes it. They are therefore merely verbal, and but serve to embody the results of demonstration, when those results are taken as the premises of a new demonstration. Thus, in geometry the essence of the 'point' and the 'line' is expressed by the 'postulates' in which they are defined, but the content of the conceptions 'straight,' 'commensurable,' 'diverging and converging,' is expressed in the definition of these properties, which states what belongs 'essentially' to the subject determined by them. Similarly, the definition and reality of the 'unit' is in arithmetic a 'postulate,' but the definitions of 'odd' and 'even,' 'square' and 'cube' numbers, express the properties of numbers which are established in the course of the demonstration. The definitions proper are therefore data of demonstration, not in the sense that they are presupposed as the basis of all the demonstrations of a particular science, but only in the sense that they are presupposed at certain stages in the process of demonstration. The truth of the primary determinations of the genus under investigation is 'postulated,' the truth of the properties which characterize the species falling under the genus is demonstrated. Geometry 'postulates' the reality of the 'point' and 'line'; it 'demonstrates' the truth that 'the triangle has two right angles' from these postulates, in combination with the common principles or axioms, employing the definition of 'right angle' which has been obtained in the course of prior demonstrations, and has been embodied in a verbal definition.<sup>2</sup>

The demonstrations of science, as we have seen, enable us to

<sup>1</sup> *Op. cit.*, 71<sup>a</sup> 13; 76<sup>a</sup> 31 ff.; 76<sup>b</sup> 3; 72<sup>a</sup> 15 ff.

<sup>2</sup> *Ibid.*, 71<sup>a</sup> 12; 76<sup>a</sup> 32; 76<sup>a</sup> 40; 76<sup>b</sup> 7.

make certain 'universal' judgments in regard to the 'kind of being' with which a particular science deals. No such judgments are intelligible, if we adopt the view of the Platonists, that there are ideas (*εἶδη*), or abstract unities, which have an existence apart from the many individuals. Nor is the assumption of such unities essential to the explanation of demonstrative science. No doubt we must be able to predicate unity of many individuals; under no other condition, indeed, can we have a truly 'universal' judgment; for no 'universal' conclusion can be drawn, unless we have a middle term, comprehending an attribute which is identical in a number of things, and identical not merely in name but in reality. Thus, if 'man' is a separate and independent idea, the proposition 'Socrates is a man' can only mean that the name 'man' is applied to Socrates, because he is found to resemble Plato and Aristotle, not because he is identical in nature with them. Only if there is absolute identity in nature can we have a universal and necessary judgment, *i. e.*, a judgment which expresses the 'essential' nature of Socrates *as* 'man.' The two terms *κατὰ πολλῶν* and *ἐπὶ πλεόνων* indicate the doctrine of Aristotle, that a 'universal' judgment must express the essential connection of subject and attribute, a connection which is not accidental, but is involved in the very nature of the object.<sup>1</sup>

From what has been said it is obvious that, in Aristotle's view, no science is possible, unless there are certain fixed or unchangeable 'kinds of being,' which can be grasped and defined by thought. It is indispensable to his doctrine that, though the accidental properties belonging to things are infinite, the properties which are inseparable from a given 'class of being' must be limited in number. This is the main argument by which he seeks to show that scientific demonstration must start from indemonstrable premises. In all predication, as he argues, there must be a primary subject which cannot be predicated of anything else. We can no doubt say either 'the white is wood' or 'wood is white,' but the second form of expression alone corresponds to the nature of things, since 'wood' is the subject of which 'white' is predicable, whereas 'white' is not the subject

<sup>1</sup> *Op. cit.*, 77<sup>a</sup> 5 ff.

of which 'wood' can be predicated, though in a proposition it may occupy the position of subject. Now, in predicating in the category of 'essence,' we predicate either the genus or the species, and whenever we predicate in any other category, we merely state what is 'accidental' or separable from the subject. The judgment, "man is an animal," is a predication of 'essence,' because it is implied that there cannot exist a man who is not as man an animal. But predication in any other category, such as 'quality' or 'quantity,' is of a different character. Thus "man is white" is not 'essential' predication, for it does not mean that 'white' is inseparable from 'man'; if it were, "man is white" would mean that there is a genus or species 'white,' and that 'man' is part of it. Whatever the kind of predication, however, there must be a subject which cannot be predicated of anything else; in other words, the individual is the real, and all real predication is a determination of the individual, whether that determination is 'essential' or 'accidental.'

Now, it is easy to show that the predicates which express the 'essence' of a subject must be limited in number. It is essential predication to say "Man is two-footed," for here we are predicating a species. And we can go on to say, "The two-footed is animal," because here we predicate a genus. But we cannot go on to say "Animal is — something else," since here we have reached the *summum genus*, and any further advance in this upward direction carries us beyond the genus to which 'two-footed' and 'man' belong, and therefore destroys the 'essential' character of 'man.' And, in the descending series, we can say "Man is animal," where the predication is of the genus; then "Callias is man," for here we predicate the species; but if we attempt to descend further, and say "Something else is Callias," we are stopped by the impossibility of predicating the individual in consistency with the nature of things. There is therefore a fixed limit, both upwards and downwards. Nor can we predicate genera interchangeably, for this would mean that a genus is predicated of itself. If, *e. g.*, number = 'magnitude,' and 'magnitude' = number; then number = 'number,' and 'magnitude' = 'magnitude'; which is no predication at all, or at most only

verbal predication. For the same reason the categories cannot be predicated of one another. In short, each kind of being has its fixed limits, and equally each kind of category.

Now, demonstration is only possible when we can find a middle term. If we know that "man is two-footed," and that "the two-footed is animal," we can reach the conclusion that "man is animal." But as there is a limit both upward and downward, there must be a limited number of middle terms. If this is denied, we must hold that everything is demonstrable, a view which really destroys the possibility of all demonstration, since it lands us in an infinite series.<sup>1</sup>

This conclusion might be reached by a simple analysis of demonstration. The judgments of demonstration must contain nothing but 'essential' properties, since a necessary conclusion cannot be derived from what is 'accidental.' Now, essential predication, as we have seen above, either (*a*) states a property involved in the subject, or (*b*) a property which is limited to the subject. It is obvious that a property essential to the determination of the subject must be 'universal' in the strict sense of the term; *i. e.*, it must be a determination of a *summmum genus* as such. Hence the judgment in which this property is predicated must be primary, and therefore indemonstrable. And a judgment which affirms a predicate that is meaningless apart from the subject must have a definite or limited application. Thus, 'odd' has no meaning except as an attribute of 'number,' and therefore nothing is 'odd' except a 'number'; it is accordingly an ultimate determination. Hence we cannot *demonstrate* that numbers are 'odd,' but must accept the determination as primary. If a demonstration were possible, we should have to find a conception which included 'odd' numbers and other species of 'odd' than that of number. As this is impossible, we cannot demonstrate that numbers are 'odd,' but must accept the determination as a first principle. Our general conclusion, then, is that the properties involved in the definition of a class, as well as its specific determinations, must as ultimate be assumed by demonstration, not proved by it.<sup>2</sup>

<sup>1</sup> *Op. cit.*, 82<sup>b</sup> 34-84<sup>a</sup> 6.

<sup>2</sup> *Ibid.*, 84<sup>a</sup> 7-84<sup>b</sup> 2.



The sphere of a given science is evident from these considerations. A science is one when it deals with a single class of being and with the essential properties of that class. When the first principles are different, the sciences are different. Now it may be shown, in the first place dialectically, that there cannot be principles common to all the sciences — 'common' in the sense of having the same specific meaning. It will be admitted that there are false as well as true syllogisms. But false premises yield a false conclusion, true premises a true conclusion. And as the premises are the ἀρχαί from which the conclusion is derived, the ἀρχαί of false syllogisms must be generically different from the ἀρχαί of true syllogisms. And not only so, but there may be a generic distinction even in the case of false principles themselves. Thus we may form false syllogisms, either by concluding that justice is injustice, or that it is cowardice. Here the two false conclusions contradict each other, and must therefore be derived from generically different first principles. And what is true of false syllogisms is even more obvious in the case of true syllogisms. We cannot establish a true geometrical conclusion from arithmetic, because arithmetic deals with points that have no position, whereas geometry deals with points that have position. If we attempt to pass from units to points, we must find a middle term expressing what is characteristic of the unit or the point, or a conception predicated of both as the genus of two species, or subsumed under both, or higher than the one, lower than the other. But (1) a specific principle cannot be a middle term, since a middle term must be common to the two extremes; (2) it cannot be related to the extremes as genus to species, for 'unit' and 'point' would then have the same 'essence'; (3) nor can it be subsumed under both, for then there would obviously be two genera; (4) nor can it be higher than the one, lower than the other, for then it would be the genus of, say, the 'point,' while the 'point' would be the genus of the 'unit.' As these are the only possible suppositions, the principles of two sciences cannot be the same in kind. It is no real objection to this view, that there are 'common' principles, for these must be specified before they can be employed in demonstration.<sup>1</sup>

<sup>1</sup> *Op. cit.*, 87<sup>a</sup> 38–87<sup>b</sup> 4; 88<sup>a</sup> 18–88<sup>b</sup> 29.

We are now in a position to distinguish between science (*ἐπιστήμη*) and opinion (*δόξα*). The conclusions of science are 'universal,' being based upon premises which are necessarily true or cannot possibly be otherwise. The object of opinion, on the other hand, is that which may be true, but is not necessarily true, or that which, though necessarily true, is not known to be necessarily true. But, strictly speaking, even in the latter case the object of opinion is different from the object of science. Both may relate to the same object, but the mode of conception is fundamentally different, and therefore the object is really different. The same person cannot at once have an opinion in regard to a thing, and a scientific knowledge of it; for this would mean that he could hold contradictory notions, and believe both to be true.<sup>1</sup>

From what has been said, it is obvious that we have scientific knowledge only when we have discovered the 'cause' or 'ground.' But as such knowledge must from its very nature be true of actual things, there can be no knowledge of the 'cause' (*τὸ διότι*), unless there is a previous knowledge of the 'fact' (*τὸ ὅτι*). In the progress of science towards its goal, it is not unusual to begin by demonstrating the 'fact,' as a preparatory step to the demonstration of the 'cause'; a procedure which is perfectly natural, because the fact is more readily accessible to us than the cause. Thus we learn from induction that bodies whose light gradually increases are spherical, and we infer that, since the moon gradually increases in light, it is spherical. This gives us the syllogism :

Bodies which gradually increase in light are spherical.

The moon gradually increases in light.

Therefore, the moon is spherical.

The proof, however, does not satisfy the demands of scientific demonstration, for the major premise states a 'fact,' without assigning a 'cause.' It is true that bodies which gradually increase in light are spherical, but until we know that the increase in light is an 'essential' attribute of 'spherical' bodies, *i. e.*, that *only* 'spherical' bodies possess the attribute in question, we can-

<sup>1</sup> *Op. cit.*, 88<sup>b</sup> 30-89<sup>b</sup> 9.

not obtain a really 'universal' conclusion. Hence the proper form of the demonstrative syllogism states the 'cause,' and assumes the form :

Spherical bodies gradually increase in light.

The moon is a spherical body.

Therefore, the moon gradually increases in light.

The major premise is a 'universal' judgment, in the sense defined above, because it states what is true of 'all' spherical bodies, what is 'essential' to the class, and what is true of the class 'as such.' Aristotle's general view is, that we never have a premise expressing the 'cause,' except when subject and predicate are convertible. The demonstrative syllogism, therefore, naturally falls into the first figure — the favorite figure of the mathematical sciences — because this is the only figure in which we have a universal affirmative conclusion. It may be added that, while there can be no science, in the strict sense of the term, until a knowledge of the 'cause' has been obtained, it sometimes happens that the 'fact' is the object of a subordinate science, while the 'cause' is brought to light by another science. Thus optics deals with the 'fact' in the case of visible phenomena, while geometry assigns the 'cause.' But this division of labor is obviously merely a matter of convenience, and does not affect the general principle that scientific truth consists in the knowledge of causes.

In this article a summary of Aristotle's general view as to the nature of science has been given ; a subsequent article will deal with his view of induction, as the method by which science is supplied with the premises from which its conclusions are drawn.

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<sup>1</sup> *Op. cit.*, 78<sup>a</sup> 22-79<sup>a</sup> 32.

## THE REALITY OF THE FINITE IN SPINOZA'S SYSTEM.

IN the frequent notices of Spinoza's philosophy which we find scattered through Hegel's works, the German thinker emphatically exonerates his Jewish predecessor from the accusation of atheism so often brought against him, but at the same time himself brings the counter charge that his system is an "Acosmism," inasmuch as it maintains the exclusive reality of God so strenuously as to relegate the phenomenal world to the limbo of the illusory and unreal, till it becomes a mere semblance of the substantial and true.<sup>1</sup> The importance of this objection, if it is in fact well taken, can hardly be overestimated. For in spite of Hegel's genuine and warm appreciation of Spinozism as an essential moment in the development of philosophic thought, yet his reading of the system really resolves it into a mysticism pure and simple, and abrogates its claim to constitute a naturalistic metaphysic. If it is Spinoza's doctrine that the matters which pertain to our everyday experience, or which are the objects of scientific investigation, — the events which, whether regarded as physical or psychical, constitute our environment and make up our lives, — are in truth nothing but illusion, a veil hiding by its many colored folds that blank undifferentiated unity which alone deserves the name of reality, then is he in harmony not with the spirit that governs our modern science, but rather with that deeply contemplative but unprogressive thought of the East, which presents for the subtle play of the imagination a world composed of the stuff that dreams are made of, but offers to the eager craving of the human intellect no vivifying or illuminating principle. Spinoza's whole attitude toward knowledge, — the intense intellectualism pervading both his psychology and his ethics, and dominating his philosophical outlook, — might of itself lead us to doubt the correctness of the Hegelian interpretation of his ontology. An examination of his teaching in regard

<sup>1</sup> See, for example, *Encyclopædie*, I, S. 110, 300-303; *Geschichte der Philosophie*, III, S. 373, 374.

to the phenomenal world may perhaps reveal what elements in it gave rise to this view and at the same time afford material for its correction.

The heart of the problem lies in the character of the relation between "modes" and "substance" — that "ens absolute infinitum" which Spinoza calls God. The explanation ordinarily given of the Spinozistic "mode" is that it is the individual existent thing, the separate or separable fact, whether psychical or physical, which enters, or may enter, into our experience. Nor is this incorrect; but what must be constantly borne in mind, if this account is not to mislead us, is that Spinoza asserts emphatically the entire dependence of the mode and its relativity to substance. The individual thing, we might say, is never *wholly* individual, for it is, only as a modification or affection of being as infinite. There is, therefore, no absolute dualism between substance and its mode, between the real and the phenomenal. Thus, when he states: "Extra intellectum nihil datur præter substantias earumque affectiones,"<sup>1</sup> it is clear that the only existence the mode possesses is as an affection of substance. This is still more definitely brought out in *Ethics*, I, proposition xv, where it is said that modes can only be in the divine nature, and only through it can be conceived. So also in the corollary to proposition xxv, in Part I, we read: "Individual things are nothing but modifications of the attributes of God, or modes by which the attributes of God are expressed in a fixed and determined manner." Reference might be made to a very large number of passages in which this intrinsic and essential dependence of mode on substance, — that is, of the particular thing on being itself, — is strongly asserted. It would be then an entire misreading of Spinoza to explain "substance" as one entity and the "mode" as another, inferior to and different from it. The individual thing is an "affection" of substance — a manifestation, within limits, of being, which taken *per se* is absolutely infinite. Hence, if the reality of the things presented to our experience can only be retained by regarding them as independent of substance, Spinoza's system must indeed be pronounced vulnerable to the imputations

<sup>1</sup> *Ethics*, I, prop. iv.

of being an "Acosmism," for constantly and with insistence does he assert that such "res particulares" are just affections of substance, apart from which they could not conceivably exist.

But when we reflect that substance or God is equivalent to existence itself, in its fullest and richest significance, we find that Spinozism by this dogma of the relativity of the mode is not denying, but rather most strenuously asserting, the reality of the individual and of the world made up of individuals. To say that anything was independent of God, would mean, could the phrase indeed have any meaning, that such thing was outside the sphere of existence, that it was a nonentity. If it *is* at all, an object must pertain to, and be included in, the circle of being. Only in a restricted sense can Spinoza even be said to deny *substantive* existence to the individual. It is true that, *qua* individual, it is not substance. We are told in *Ethics*, Part II, proposition x, that "the being of substance does not pertain to the essence of man," and in the scholium to the same proposition the statement is given in more general form that, while individual things cannot be or be conceived without God, yet "God does not appertain to their essence"; yet none the less the mode is an expression of God's nature, though a conditioned or limited manifestation. We might say that, though God does not appertain to the essence of the particular things, yet their essence must appertain to God. "All things are in God, and all things which come to pass, come to pass solely through the laws of the infinite nature of God, or follow from the necessity of his essence."<sup>1</sup> There is evidently no barrier set up between the mode and that of which it is a mode. The latter partakes of, though as finite it cannot exhaust, the reality of the "ens absolute infinitum." Yet obviously we have a right to ask for a clearer and fuller account of the relation between the particular and the universal in existence; than is given in the mere statement that the one is the necessary manifestation or expression of the other. To grasp Spinoza's explanation, we must take into consideration some rather obscure elements in his system of thought.

First, let us look at his use of the scholastic expressions

<sup>1</sup> *Ethics*, I, prop. xv, scholium.

"*natura naturans*" and "*natura naturata*." It is not improbable that Spinoza was conscious that these terms were not wholly satisfactory as representations of his ideas, for we find them dropping out of the *Ethics* before the conclusion of the first Part. Of their meaning, however, there is no doubt; they signify respectively nature regarded as active and nature regarded as passive or receptive. By nature as active, we are told, is meant "that which is in itself and is considered through itself, or those attributes of substance which express eternal and infinite essence, in other words, God, in so far as he is considered as a first cause." "By '*natura naturata*,'" Spinoza continues, "I understand all that which follows from the necessity of the nature of God, or of any of the attributes of God, that is, all the modes of the attributes of God, in so far as they are considered as things which are in God, and which without God cannot exist or be conceived."<sup>1</sup> This passage would alone be sufficient to show that Spinoza does not accept any ultimate or intrinsic duality between the real and the phenomenal, between the unity of being and its manifold expressions, for to suppose that "*natura naturans*" and "*natura naturata*" are *two* natures numerically distinct, would be to upset his fundamental dogma that God, nature, the "*ens absolute infinitum*" is one. Of importance to the correct understanding of Spinoza's meaning is the statement of Proposition xxxi, that "*intellectus actu*," whether finite or infinite, is to be referred to "*natura naturata*." In the proof it is affirmed that by the intellect, in this sense, is meant not absolute thought, but only a certain mode of thinking, differing from other modes, and therefore requiring to be conceived through absolute thought. In the scholium to the same proposition, he protests against the assumption that by using the phrase "*intellectus actu*" he is implying a belief in the existence of a merely potential intellect; in fact, he is by it merely signifying the very act of understanding which is implicit in the perception of anything whatever. The "*intellectus actu*" is *modal*, whether a finite or an infinite mode, and thus referable to "*natura naturata*," whereas "absolute thought" is itself an attribute of God, or God's very nature in one of its infinite aspects, and so is referable to "*natura naturans*."

<sup>1</sup> *Op. cit.*, I, prop. xxix, scholium.

There is little difficulty attending Spinoza's conception of God as "natura naturans." As is everywhere made apparent, God, or substance, is by the necessity of his own nature active; and from this same necessity "must follow an infinite number of things in Infinite ways." Plainly, "natura naturans" is being *per se*, recognized by us as force or activity. But "natura naturata" seems at first sight more puzzling, if it is taken as implying a passivity in God. To conceive of God as inactive is impossible;<sup>1</sup> it might seem then that we must regard "natura naturata" as a merely illusory and deceptive presentation of reality—giving us an *apparently* passive universe, which does not in fact exist. This interpretation would lead to Hegel's conclusion already referred to. But the true explanation becomes clear, when we recall Spinoza's use of the conception of causation. God is infinite cause, the "efficient" and the "first" cause of all; from him, as well as in him, are all things; viewed, then, in relation to the infinite things which follow from him, he is the activity of nature. But such necessarily infinite things are in no sort separate from their divine source; they do not exist outside of, nor along with it,—they are neither emanation nor creation,—but manifestations, expressions of God or being, God as "causa sui." Hence we may regard nature, taken as the totality of such manifestations, as the effect or consequence of which God ("natura naturans") is the cause or ground; but in so doing we are not treating it as though it were something apart from God, something undivine, unreal; rather it is the same being which is now presented as the *resultant* of its own force. The expression "causa sui," would be meaningless were it not possible to conceive of substance as effect. The latter conception gives us "natura naturata," but it is not a positing of an inactive being, a dead, inert universe; it is merely *a view* of reality in which the results of activity are brought out rather than the activity itself. The results are real, not illusory; indeed, an activity which should have no real results would itself be non-real. From proposition xvi of Part I, and from not a few other passages, we gather that Spinoza had fully grasped the idea on which modern German idealists, and Hegel in particular, have laid such

<sup>1</sup> *Ethics*, II, prop. iii, scholium.



stress, that an absolute being which should not imply self-differentiation, evolution, an 'anders-sein,' would be a mere non-entity. But perhaps more firmly than any other philosopher did he hold to the counter proposition, that such differentiation is only a relative one, and that the world of relation is unthinkable except as we can conceive in thought the unity to which that world belongs. The effect is not something quite other than the cause, but the same fact regarded in new connections. 'Force' and 'matter' are not separable 'things,' but two ways of envisaging the physical universe. 'Thinking' and 'ideas' are similarly two aspects of the one mental current making up our consciousness. So, to revert to our immediate subject, "*natura naturans*" and "*natura naturata*" are the one being, viewed now as cause or ground of itself, now as its own effect or consequence.

"*Natura naturata*," or nature as effect, is, however, not a mere congeries of separable and finite things. The modes of which it consists are "*infinite modes*"; and here we meet with a group of Spinozistic conceptions, highly important to the system, yet introduced so apparently at haphazard, and presented with such perfunctory and vague explanation, as to leave the student in some doubt as to whether Spinoza himself had thoroughly mastered their significance. These conceptions are "the things immediately produced by God," or "*infinite modes*" following necessarily from the absolute nature of some attribute of God, and "things produced by means of some such infinite modifications." Since nowhere else do we find Spinoza's thought so obscured and hampered by the inadequacy of his terminology as in this connection, it may be desirable to trace out somewhat carefully the various stages in his presentation of this part of his teaching; for we meet with these same ideas differently formulated in most of his philosophical works.

In the "Short Treatise," Part I, chapters viii and ix, we find, after an account of "*natura naturans*" which does not differ essentially from that given in his maturer work, the following description of "*natura naturata*." "'*Natura naturata*' we shall divide into two, a universal and a particular. The universal consists in all the modes that immediately depend on God, of which we shall

treat in the following chapter. The particular consists in all the particular things which are caused by the universal modes. So that 'natura naturata' requires substance in order that it may be rightly conceived." "Now as concerns the universal 'natura naturata' or the modes or creatures which immediately depend on, or are made by God, of these we know but two, namely, motion in matter and the understanding in the thinking thing. Of these we affirm that from all eternity they have been and throughout all eternity will remain unchangeable. Truly a work as great as befitted the greatness of the master-worker." "Now as to what particularly concerns motion, since this belongs more properly to the treatise on natural science than to this—how that it has existed from all eternity and shall remain unchangeable through eternity; that it is infinite in its kind; and that through itself it can neither exist nor be conceived, but only by means of extension—of all this, I say, we shall not treat here, but only affirm of it this, that it is a son, creature, or effect immediately produced by God."

"As concerns understanding in the thinking thing, this too, like the first, is a son, creation, or immediate product of God, made by him from all eternity, and through all eternity remaining unchangeable."

Here, then, in the earliest formulation of Spinoza's philosophy (if we except the two dialogues contained in the "Short Treatise"), we have the distinct assertion of things produced immediately by God as identical with infinite modes, and these limited, so far as our knowledge goes, to two—motion in being as extended and understanding in being as conscious; while a strong emphasis is laid on their unchangeableness and their "eternity." Allowance being made for the figurative language of the early work, there seems no reason to believe that Spinoza ever departed from, or in any important respect modified, the position here laid down.

In the second Appendix, which is certainly of later date than the "Treatise" itself, we find the correlation of "infinite modes" in the physical and the psychical attributes again implied, though the phrase "infinite idea" takes the place of "understanding." "It

is to be observed that the most immediate modification of the attribute which we call thought, has in itself objectively<sup>1</sup> the formal existence of all things. . . . From the all or thought is produced an infinite idea which contains objectively in itself the whole of nature as it actually is."<sup>2</sup> "We thus take it as proved that in extension there is no other modification than motion and rest, and that each particular bodily thing is nothing else than a definite proportion of motion and rest."<sup>3</sup> In the *Tractatus de intellectus emendatione*, we meet with these same "creatures immediately produced by God," under a different name, *i. e.*, the "fixed and eternal things."<sup>4</sup> The name need not surprise us, since we have noticed that it was on the eternity and unchangeableness of the infinite modifications that Spinoza laid stress in the "Short Treatise."

It is necessary to study somewhat closely the account given of these "fixed and eternal things." After laying down the rules for the definition of "created" and "uncreated" things, Spinoza asserts the paramount importance of a knowledge of particulars. Then, in regard to the order of knowledge, he requires that first there should be established the existence and nature of the being which is the cause of all things, so that its "objective essence" being the cause of all our ideas, our mind may, as completely as possible, reflect the essence, order, and union of nature. For this, he says, we must, avoiding all abstractions, deduce our ideas from the sequences of "physical things" or "real entities." But he adds that these latter are not the innumerable mutable things, but "fixed and eternal things." What we want to apprehend is the intrinsic essence of things, and (since the mutable individual things only give us what are external, or at best unessential properties) "this is to be sought from fixed and eternal things only, and also from the laws inscribed in them, as it were, in their true codes, according to which all particular things are produced and or-

<sup>1</sup>As has often been pointed out, "objective" means for Spinoza mental or subjective, while "formal" signifies "actual," or, approximately, what we mean by "objective."

<sup>2</sup> *Opera*, Ed. Van Vloten and Land, Vol. III, p. 100.

<sup>3</sup> *Ibid.*, p. 103.

<sup>4</sup>On this point see the admirably clear explanation in Pollock's *Spinoza: His Life and Philosophy*, chapter iv.

dered." The particular mutable things are wholly dependent on those that are fixed and eternal, and the latter, he goes on to state, though themselves particular, are, owing to their power and presence everywhere, to us as universal, and stand as genera to the mutable things. To apply the knowledge of these fixed and eternal things is, however, peculiarly difficult, because they do not exist in a temporal series, but are "by nature simultaneous," so that something more than an apprehension of them is required if we are to understand the time-sequence of particulars. What this "something more" is, Spinoza does not tell us.<sup>1</sup>

At first sight, this account of the "fixed and eternal things" seems full of the most curious, because the most obvious, contradictions. Taken by itself, the passage is hardly intelligible. What can they be, these "physical things," which are "real entities" and "fixed and eternal things," which are not, like the "mutable" things, innumerable, and so beyond the reach of human weakness to compass, which are "singular things" and yet "like universals to us"? Undoubtedly the language here is highly obscure, and we can hardly believe that the thoughts to be expressed were quite clear in the writer's mind when these phrases were penned. Some correlation between these "fixed and eternal things" of Spinoza and the "Ideas" of Platonism, at once suggests itself to every reader. Yet it is impossible to introduce the Platonic "idea" into the Spinozistic ontology without producing utter confusion. It seems, indeed, probable that the passage in question does point to an influence on Spinoza's development, not from Plato himself, but from the neo-Platonism of Renaissance thinkers. But the expression "physical things" alone would prove that we are not being introduced to Plato's world of ideas. Undoubtedly what Spinoza has in view here is the double manifestation of reality as existence moving in space and the same existence conditioned by mental activity. In the cruder, but more intelligible language of the "Short Treatise," it is "motion," regarded as the essence of the material world, and "understanding," regarded as the essence of the mental world, and as corresponding to and coördinate with motion, that are the

<sup>1</sup> *Opera*, Vol. I, pp. 30-32.

"fixed and eternal" things. It is, however, to the *physical* side that Spinoza directs attention, probably because in the *De intellectus emendatione* he is dealing with the epistemological problem, and we must know physical things, objects moving in space, before we know them as reflexions in consciousness. Putting together the statements of the "Short Treatise," of its second Appendix, and of the *De intellectus emendatione*, we can see that "motion" is for him the dynamic aspect of matter, and like the latter is infinite and eternal, and that the *activity of consciousness*, variously called by him "infinite idea," "understanding," and "infinite intellect," is the similar dynamic aspect of mind or thought.

Coming now to Spinoza's mature expression of this doctrine, we find in the *Ethics*, Part I, proposition xxi, the statement that whatever follows from the absolute nature of any attribute of God must be eternal and infinite. In Letter lxiv, in answer to Tschirnhausen's questions, Spinoza states that examples of these are, in thought, absolutely infinite understanding, and, in extension, motion, and rest, precisely the teaching of his earlier works, as we have seen. *Ethics*, I, proposition xxii, asserts that whatever follows from any attribute of God, as modified by such necessarily existent and infinite modes, is itself "necessarily existent," which is for Spinoza the same as eternal and infinite. The one example offered Tschirnhausen of modes of this kind is "*facies totius universi*," and he is referred for further explanation to the *Ethics*, Part II, Lemma vii, scholium, which shows clearly that by "*facies totius universi*" is meant the totality of physical nature, "conceived as an individual, whose parts, that is all bodies, vary in infinite ways without any change in the individual as a whole." This passage enables us to see the character of these mediated infinite modes, as we may call them, as distinguished from the immediately produced motion and thought-activity. The mediated infinite modes are not, *per se*, indivisible; they consist of 'parts,' just as the finite mode, *e. g.*, the human body, does; only these parts are infinite in number. No student can fail to observe Spinoza's omission of any specified mediated infinite mode in the psychical sphere. This may have been due to

his unwillingness to introduce into a letter a discussion of a conception still ill-defined in his own mind, and for which his philosophical vocabulary was unprovided with an appropriate term. He can hardly have been unconscious of the gap thus left in his system. Admitting this imperfection in his account of God as thinking thing, in relation to the facts of consciousness, we may tabulate his exposition of God's being in relation to the physical world only in the following scheme.

God = "ens absolute infinitum," existence *per se*, which is self-activity, and in its essential nature infinite, timeless, and indivisible.

Extension = Existence in one of its "attributes" or aspects (that is, one out of the infinite possible ways in which it is cognizable), and therefore necessarily infinite, timeless, and indivisible.

Motion, or Motion and Rest = The immediate resultant of the infinite activity, when that is regarded as extension, — timeless, infinite, and immutable.

The physical universe as a whole, "*facies totius universi*" = That which follows from extension as affected by motion, or the totality of matter as subject to the laws of motion. It is, *as a whole*, permanent and infinite, but is made up of an infinite number of finite and mutable facts.

The finite modes as physical = The individual material things. These are infinite in number, divisible, mutually limited, and susceptible to change through their determination by each other. Each, however, is a modification or manifestation under limiting conditions of the infinite activity, working under spatial conditions, or of "God as an extended thing."

A corresponding scheme for "God as thinking thing" could of course be readily formulated. As Sir Frederick Pollock suggests, the "*idea Dei*" may be used to correspond to the "*facies totius universi*," the "infinite intellect" then representing the dynamic expression of absolute consciousness; but, as he points out, it is not clear that this was Spinoza's own procedure.<sup>1</sup> Indeed, from *Ethics*, I, proposition xxi, it would rather seem that the "*idea Dei in Cogitatione*" was one of the things which follow immediately from the nature of God, and therefore analogous

<sup>1</sup> *Spinoza: His Life and Philosophy*, 2<sup>d</sup> ed., p. 176.

with motion rather than with the "facies totius universi." Yet taking together the various passages in Parts I and II of the *Ethics*, and reading them in the light of the explanations offered in Letters xxxii and lxiv, we can gather, first, that Spinoza did recognize the existence of consciousness as a totality, in which each individual mind and fact of mentality exists, and of which each forms a part, and that such totality of consciousness is infinite, its 'parts' being finite but infinite in number. It must, of course, be remembered that, according to the Spinozistic view, each 'thing' great or small, has its psychical as well as its physical existence. Secondly, this conscious totality may be conceived dynamically, its existence is at the same time force. The all-inclusive consciousness is then equivalent to the "facies totius universi," it is this viewed under the attribute of thought; while, just as the "facies totius universi" is the total "res extensa" as conditioned by motion, so is this all-inclusive consciousness the "res cogitans" as conditioned by that universal and ceaseless activity, call it by what name we will, which is the psychical equivalent of physical motion.

As regards the nature of the actual phenomenal 'things' which compose the multiplicity of the world we live in, Spinoza's teaching is clear enough. The finite mode, like the existence of which it is the limited manifestation, is cognizable as physical and psychical. It is conditioned by its fellows, and the specific character of each object is what it is because of its interaction with other modes.<sup>1</sup> At the same time, each is "conditioned by the necessity of the divine nature, not only to exist but to exist and operate in a particular manner."<sup>2</sup> If we do not firmly hold to the conception of the oneness of God, or "ens," with the whole world, we shall find here a contradiction. Each thing depends on God both for the fact and the manner of its existence,<sup>3</sup> and yet each is determined by the other finite existences with which it is, as we may say, in touch. Yet Spinoza's meaning is easily grasped. *Being* is concrete reality, all-extensive, all-embracing. Of that reality the particular thing — this atom, this plant, this human

<sup>1</sup> *Ethics*, I, prop. xxvii.

<sup>2</sup> *Ibid.*, I, prop. xxix.

<sup>3</sup> *Ibid.*, I, prop. xxv.

being — is part and parcel ; its emergence and continuance in the world are existing facts. Nor could existence *be* without things that *are*, things infinite in number and in variety.<sup>1</sup> Yet that *this particular thing* should be so and not otherwise, is obviously not explained by a mere reference to the “ens absolute infinitum.” The particularity involves relation to other particulars, each of which, of course, is equally “a modification or affection of existence itself,” or is “God as modified by some finite modification.” When we consider any individual thing as a psychical fact, we regard it as a phenomenon of being as “*res cogitans*” ; it is a fact of consciousness to be explained, if explicable at all, by its relations to other facts of consciousness. Similarly, the physical phenomenon can only be understood by referring it to the physical events on which it depends.<sup>2</sup>

The foundation by Spinoza of this restriction of the explanation of the physical and psychical to the respective sphere of each order of fact, has been of capital importance to the cause of clear and exact thinking. But his justification of the restriction is often lost sight of even by those who recognize its value. Mental and material phenomena do not interact, just because beneath the diversity which their very terms express, lies the oneness of the fact which each partially expresses. So far from being “separated from each other by the whole diameter of being,” the physical and psychical are just the two expressions of being itself. “The order and connection of ideas is the same as the order and connection of things.”<sup>3</sup> “So long as we consider things as modes of thinking, we must explain the whole of the order of nature, or the whole chain of causes, through the attribute of thought only. And in so far as we consider things as modes of extension, we must explain the whole of the order of nature through the attribute of extension only, and so on in the case of other attributes. Wherefore, of things as they are in themselves, God is really the cause, inasmuch as he consists of infinite attributes.”<sup>4</sup> The reference to things in

<sup>1</sup> *Ethics*, I, prop, xvi.

<sup>2</sup> *Ibid.*, II, prop. vi.

<sup>3</sup> *Ibid.*, II, prop. vii.

<sup>4</sup> *Ibid.*, II, prop. vii, scholium. It is curious that, while these statements of



themselves in this passage shows the reality as well as the limitations of the world of our experience. The bounds of our knowledge are set by our ignorance of more than two of the aspects or "attributes" of infinite being. Yet this knowledge is not illusory; for we really understand a finite manifestation of existence, a "mode of substance," in so far as we know the conditions on which all its physical and psychical phenomena depend. From the foregoing examination of Spinoza's doctrine, we can, I think, safely conclude that the dualism which differentiates between an Absolute, as an intrinsic and independent reality, and a phenomenal world of manifold appearance having no intrinsic reality, is wholly foreign and adverse to his ontology. It is existence itself, existence not *per se* divisible, yet evidenced in the manifold, that is the center round which his whole thought turns. Being is by him fittingly designated God. This it is which is at once the most certain and obvious of truths, and the most inexhaustible of mysteries. With it all knowledge starts and in it culminates. Of being everything partakes; and so nothing that presents itself to our senses, our imagination, or our reason is altogether illusory. But with Spinoza, as with all the great philosophers from Plato to Hegel, we constantly find the problems of being passing over into problems of knowledge. The more thorough-going an ontology is, the more directly does it lead to the questions that lie at the root of a consistent and rational epistemology. The more strenuously we endeavor to define adequately the forms of existence, the more evident does it become that, in so doing, we are differentiating between modes of apprehension. Hence the student of Spinoza is not surprised to find that his theory of being is inextricably bound up with his theory of knowledge, and that each requires the other for its complement and explication.

E. RITCHIE.

Spinoza offer the clearest and sharpest contradiction to materialism in any of its forms, yet the modern materialist constantly appeals to the authority of his name. Haeckel is the latest offender in this respect. Of course Spinoza is equally opposed to *subjective* idealism as an ontology.

## RATIONALITY AND BELIEF.

THE purpose of this article is to attempt an adjustment of the relative claims of the logical and the extra-logical factors in belief, along the lines of certain recent discussions. In order to do this, it will be necessary to take more or less for granted certain views about the nature of knowledge which cannot be adequately defended in so brief a compass, but which, it may be assumed, are familiar. The endeavor will be to give a general survey of the field, in order to show more clearly some of the bearings of these views, and, possibly, to recommend them by guarding against certain misunderstandings.

And the first point I should make is this: that the fundamental basis of the sense of reality, as attaching to anything whatsoever, lies in the relationship to some personal need or demand. The 'real' is that which enables us to satisfy our active impulses. That is accepted as real which can be used as a means for doing whatever our nature impels us to do. And this is as true of what we call physical things as of any other object of belief. If we could conceive the animal consciousness as starting out with a purely disinterested attention to whatever turned up, backed by no outgoing tendencies to serve, such a consciousness, even if it were possible at all, could hardly be called a consciousness of reality. It would take the form at best of mere floating images, something of the nature of that with which the older sensationalism sets out. But if we regard the animal as from the beginning active, as groping more or less blindly for satisfaction, the sense stimulus which represents the satisfaction of this need has the possibility of quite another value. In other words, what we call real things are things which stand for the satisfaction of the organic will. They are the means to the realization of the bodily life, which have reality just because we demand that they should be real. It is the insistence of the need which lends reality to that which will satisfy it. And when for any reason this insistence fails,—if, for example, a great grief

deadens the springs of action,—that moment we begin to lose our grip on the actuality of things, and they become strange to us, far away, and unsubstantial. So any philosophy which, like that of the East, maintains as a tenet the utter unreality of the world, grows out of, and necessarily depends upon, a starving of the active nature; and it attains the goal of conviction, to the extent in which it is successful in crushing out desires, and in cultivating a state of quiescence and indifference. In general, conviction is apt to fluctuate with the strenuousness of our mood, and the pressure of active needs. As Montaigne remarks: "After dinner a man believes less, denies more. Verities have lost their charm." This is why, of course, as a final criterion of the reality of a thing, we appeal to the sense of touch, rather than of sight or hearing. It is only in connection with active touch that the thing comes to perform that actual service for the bodily needs, which is the final basis of its reality.

But now, while this seems to furnish a necessary basis for any doctrine of reality, I do not mean, of course, that it is in itself a sufficient account of how, psychologically, we come consciously to recognize a physical object as real, in its distinction from other realities, and, especially, from the reality of the self, and of consciousness. Immediate sense of reality is not necessarily identical with objectivity. A thing might play a part in our experience, and in so doing be present to feeling as in some sense actual, while yet it acted so smoothly and inevitably as never to call attention to itself, or be marked off as in any degree separate. The *recognition* of reality implies the relation to needs, but it also demands other special conditions beside. And in order to avoid misunderstanding, I may, before going further, indicate briefly what seem to me these further steps in the process. And, in general, the special conditions may be summed up, I think, in the failure of things to perform their function easily and smoothly. In other words, it is due to the fact that there are recalcitrant elements in experience. We do not find it the case that a need has only to assert itself to be gratified. A special stimulus is required to set off the activity; and this stimulus does not always stand ready to perform its duty. We have to look about us, and

exercise more or less coercion upon the means which are to serve for the attainment of our ends. Now it is this check upon the perfect freedom of our self-assertion, which is the starting point for our consciousness of the separation between ourselves and the world. The failure to get satisfaction brings up a dim consciousness of the need that is demanding expression. And, at the same time, there comes a reference to that which will serve to set free again our checked self-expression, and enable the impulse to carry itself out. In psychological terms, it is the sensation, or perception, which plays this part. The sensation stands for our contact with what we afterwards learn to call the real world. But it is the sensation with two special aspects or characteristics. In the first place, it stands as a means for gratifying an end more or less clearly present to consciousness, and as in some degree, therefore, distinguished from this end. And, in the second place, it stands as a means not wholly under control, a means with a will of its own, which has to be in a measure compelled to serve its purpose. It is a means, therefore, which we begin to feel as independent of those ends which we recognize, at first blindly, but afterwards with more and more distinctness, to be identical with our own life. Between the consciousness of our needs or ends, which maintains itself through the changes of bodily position, and certain other groups of experiences, we realize gradually that there is a difference. These last are not constant, but variable. Nor are they like the bodily movements which we can depend on for the attainment of our end. They are not dependable in anything like the same degree. And so the bodily self, as a system of active needs expressing themselves in movements bearing a relatively direct and constant relation to ends as realized in consciousness, comes to stand over against the objects which it has to utilize.

It is, therefore, I should say, the restraints upon the free exercise of our impulses, which lead to the growing separation between ourselves and the external world. It is the multiform experience of the uncertainty of the world of things, which provides the occasion for setting them off as things by themselves. I do not see that we need to appeal exclusively to cases of physical

exertion against opposing force. Probably this plays a considerable part in stamping the distinction upon consciousness. The sense of effort against resistance is one characteristic form of the realization of an end to be attained, which we identify with ourselves; and the attribution of this same active force to the objects which resist us, helps, by personalizing them, to sharpen the distinction between them and ourselves. But it is never the mere exertion of force which brings about this result. It must be force exerted for an end, and an end at least dimly felt in consciousness. Otherwise we have just a blind feeling, with no objectivity at all emerging.

There is one further step of importance in the growth of the recognition of objectivity. We have the object now set over against the self and the ends at which the self aims. But the self is largely in terms of the body and the realization of bodily activities. External things are those which lie outside the body in space, and which are not immediately under control, as the body itself is. We still do not have the object distinguished clearly from the inner life of consciousness, and, especially, from the conscious state which represents it — the objective thing from the sensation. Evidently, for this to come about, an occasion must arise for the clear recognition of the state of consciousness as such. Heretofore this has simply been absorbed in its objective reference or meaning. And here, again, the same principle may be utilized as before. The recognition will not come about, until attention to the mental state as such is demanded by some need which the recognition will satisfy. In general terms, such a recognition may be said to go back to periods when for any reason the customary external motives fail to work. We are forced, then, to a closer examination of the mechanism of the conscious process itself, in order to get at the cause of the trouble, and, if necessary, to discover substitutes for the old stimuli. There is a temporary inversion of the real order of things. Subjectivism for the time being gets the upper hand; the inner world acquires a new sort of reality. It is not when life yields most pleasure that a pleasure philosophy comes to the front. Then it is *things* which men value. The consciousness

that pleasure alone is worth while marks a failure in pleasure getting, and an attempt at the discovery of an artificial stimulus. So it is not when the emotional life is at its height that we have a deification of the emotions. Then men are religionists, artists, patriots. It is because the occasion for emotions is failing, that their reality as things and ends in themselves begins to stand out. As regards the special recognition of sensational and perceptual facts, the chief occasion would appear to be the occurrence of perceptual error and illusion. The fact that two apparently similar experiences have different results, one that for which we are looking, and the other puzzling and disappointing, grows gradually into the recognition of the subjective fact,—the element of identity in the two different situations,—as having an existence of its own. So, historically, sensationalism has been the outgrowth of scepticism; and scepticism is the acute recognition of the fact of error. And now, when we do once recognize the sensation as such, we feel sure that our meaning with reference to it is not the same as our meaning when it is directed towards the object. It is not the sensation itself which enables us to carry out our ends. The sensation is a state of ours. It simply stands to us as a representative of that active agent—the real object—which has a direct causal relationship to our lives, and on which we are dependent.<sup>1</sup>

<sup>1</sup> This implies that there is a sense in which the reality, or objectivity, of any fact of knowledge, involves its correspondence to our idea of it. This is often objected to on the ground that the words 'real,' 'objective' mean simply inclusion within a system of thought, and that a thing, accordingly, is real, not as it is correctly copied in our subjective ideas, but as it enters into relationships to other things. But this latter conception might very well be true, without excluding the other. In thinking of the objective world, we usually abstract from our act of knowledge. And when we do this, what we mean by the reality of a thing does involve its relation to the other contents of knowledge. We call a thing real, when it enters into this complex of relationships; unreal, when they refuse to accept it. And if we could always ignore the specific faculty of human knowing, this might be a sufficient account. But when we also have occasion to think of the experience of knowing, we have added another fact to be brought into relation; and the particular relation which this bears to the object known is just the relation of correspondence.

There is, no doubt, reason for the discredit into which the copy theory of knowledge has latterly fallen. If we take this as the whole of the problem of knowledge, it is obviously insufficient. There is a sense, certainly, in which the very process of human knowing itself is part of the process of reality, and not merely a pale-copy or reflection of reality. Knowledge does not simply stand off and look at the world, re-

There is one other thing which plays a large part in the development of our final conception of the objective world, and that is the social experience. This has been emphasized strongly in recent years, and undoubtedly it needs to be reckoned with continually in any complete account of the way in which our present notion of reality has grown up. Our relationships to other men supply, in one way or another, a large part of the content which enters into the conception for any one of us. Social contrast enters largely into the bringing to consciousness of the ends which we identify with ourselves. The fact of social agreement is one of the very most important tests for determining what particular contents shall permanently be accepted, and what shall be rejected as illusory. Probably, also, disagreement between different people has a great deal to do with bringing about a recognition of the subjectivity of sensation. But when one goes on to hold that social agreement is the *source* of our whole idea of the external world, it does not seem to me that the position is justified. This, as I understand it, is what Professor Royce maintains. We react, in the first place, by way of imitating other persons. In these imitative reactions, we get certain experiences by means of which our conceptions of these other selves, and then, in contrast with these, of our own self, are gradually built up. And it is only when we have come to recognize that, in the experiences of these different selves, there are certain similar contents, that the similarity leads us to postulate a single, separate, real 'thing,' to which they all alike refer.

I find it difficult to make this conception clear to myself. It peating in less glowing colors what it finds there. There would be neither rhyme nor reason in that alone. Thought lies within, not outside, the charmed circle of existence; and this is richer with every new achievement of reason. But surely there is another side also, according to which reality and the process of human thought are not identical. And it is easily possible, if we interpret reality in terms of life, to combine the two demands — that growing knowledge should have a reference to reality beyond itself, and yet that it should be necessary to the constitution and meaning of this reality to which it looks. Our lives enter into the great unfolding drama of the universe; and so our growth in knowledge, and the action to which it leads, form a real step in the progress of the whole, and a constitutive part of the real world. And yet the part we have to play requires a knowledge of the situation in which we are placed, an acquaintance with the larger reality beyond us; and, therefore, the representative aspect of knowledge is also essential to its whole meaning.

seems to make an unwarranted distinction between certain material things and others; and to hold that recognition of these two parts of the same world is brought about in essentially different ways. I cannot understand what form the recognition of a person would take, which was not also the recognition of the reality of a body. If the belief in the substantial, and in some sense independent, existence of the body, as a part of the physical world, follows in point of time not only the recognition of persons, but the discovery of an agreement in the matter of common sensations, the early stages of experience, it seems to me, are hard to state intelligibly. If, however, the bodily organism, as a part of our idea of a person, stands out as real, it does not seem plausible to make it stand alone, in sharp distinction from all other physical facts. Why would it not be simpler to keep more closely to the apparent facts of experience, as they are ordinarily understood? No doubt persons are especially interesting objects to the young child. But they are not the only interesting things. And if we grant the direct postulation of persons as real, on the basis of social needs, I see no difficulty in granting a direct postulating of the reality of things, on the equally immediate basis of their relation to more physical needs. All physical objects which are recognized at all would thus be on an equality. We should not have to suppose that we notice first the similarity of perceptual experiences, and then, to explain this, infer a distinct and identical object. If we think of the matter at all, we assume from the start that everyone must see the object as we do. And the fact that they do not always see it thus, comes with a shock of surprise, and is one of the things that first lead us to think about our experience as such.

Now the outcome of the whole matter is, once more, that reality is at bottom a postulate of the will, or, if one prefers, of life. The whole concrete content of knowledge is an assumption, — a well-grounded assumption, it may be, but still an assumption. In the ultimate sense, I cannot demonstrate æsthetic truth, for example. I take it as true because it appeals to certain demands of my nature. But it is equally impossible to demonstrate the simplest object of sense, or the most fundamental physical



law. Of course, there is a sense in which physical beliefs have a certain practical and historical advantage over the spiritual. As Mr. Balfour has said, they are more absolutely essential to our existence, and, consequently, have become more firmly organized. A man may disbelieve in beauty and goodness, and still maintain an existence; he cannot disbelieve that food will nourish, and that fire will burn. This necessary relation to the lowest conditions of existence has brought about, by the process of selection, a uniformity in physical beliefs which is lacking in others. Every man believes his senses, but not every one believes his higher instincts. But, nevertheless, at bottom, the evidence is the same in nature. We believe the evidence of the senses, not because we can prove it, but because we have to accept it as true if life is to go on. We accept the validity of the spiritual values of life for precisely the same reason — because we find ourselves so constituted that we demand their validity. To reduce human nature to mere physical life, shows a glaring insensibility to the most obvious facts. And, logically, there is no reason why certain particular impulses in the nature of the self should be selected out, as alone having objective validity.

Now this involves a reference to another aspect of the conscious life. It is not only as the demand of will that the so-called spiritual facts are accepted; it is as the demand of feeling even more obviously. Indeed, it is only at the behest of emotion that the assertion of the impulses normally takes place in the realm of the spiritual life. And there is perhaps an even greater unwillingness to admit that feeling has any rights in the search for truth. The whole business of thought, it is said, is to free us from the enthrallment of feeling. It tries to look upon the world with the eyes of cool unprejudiced reason, leaving behind all endeavor to find things as we want to find them. We are learning to recognize that the truth is not necessarily agreeable; that the world is not built to meet our personal demands upon it. And it is the part of the wise man to school himself to discredit the demands of feeling, and to expect but little from life.

To this attitude I wish to demur. It is no doubt true that emotions are often dangerous to thought. Certainly it is not to

be recommended that, when we sit down to philosophize, we should be in a highly wrought emotional mood. But, on the whole, I do not know that emotions are more likely to lead us astray than a highly cultivated emotional indifference. Such an indifference is as abnormal as it is impossible of complete attainment. It is not well for us to make too slight demands upon the universe — in knowledge, any more than in action. Now it is at least to be noticed that, if there is any validity at all in the world of values, emotion must have some place in knowledge. It is emotional feeling which creates values. It creates them, that is, as conscious values, though in another sense values are presupposed by feeling. For if what has been said is true, facts are also values. They are facts because they meet a need, because they are worth something to us. The only difference between facts and values in the ordinary sense is that due to the presence or absence of the feeling, or emotional, realization. 'Facts' simply represent certain values for the physical life that have got themselves so well established that they ordinarily stand in no need of special conscious realization in feeling terms.

Now the nature of emotional feeling, and its part in experience, is still somewhat obscure, notwithstanding the large amount of attention that has been given to it in recent years. The following account does not pretend to be a complete psychological statement, but only a suggestion of certain aspects which bear more directly on its relation to knowledge. And two characteristics of emotion would perhaps be generally accepted. In the first place, it represents an active disposition; it is not merely passive and acquiescent. Furthermore, it has a more or less definite objective reference. It is feeling directed towards some object; and therefore it involves the cognitive side of experience, not mere feeling, or mere impulse. It is a feeling disposition, connected primarily with the conscious recognition of something.

Before considering the next characteristic, it seems to me necessary to make a distinction between two different classes of emotional experience. The characteristic itself ~~is~~ this: That emotion, as we are apt to think of it, is tumultuous, disturbing, a hinderer of normal and rationally effective action. As I shall

indicate presently, I do not think that this is true of all emotional feeling. Nevertheless, it is a noteworthy aspect of emotion in its most striking form, — the form which most easily compels attention to itself; and therefore we naturally tend to think of it as a normal mark of the emotional experience. It is this feature, in particular, which is responsible for the ill-repute that emotion has among philosophers, as a disturbing element in the process of thought.

But now, in the first place, just this tumultuousness, and apparent interference, may be held to have a real importance even for the process of knowledge. To put it roughly, it stands for an instrument of discovery, a means of bringing to consciousness the value of our native impulses, or tendencies, or powers, to which, as I have maintained, the life of knowledge goes back. In this particular aspect of it, emotion would seem to depend, almost certainly, on bodily processes, largely organic, which stand in a close relation to instinctive activities. It is not, however, the free expression of these instinctive reactions which constitutes the typical emotional disturbance, but rather the checking of such free expression. Unchecked, the instincts simply carry themselves out; we act, rather than feel. Checked, the outgoing current is thrown back upon itself. As organic, it attains to a heightened consciousness. As both organic and overt, it overflows into those relatively unorganized bodily changes which enter largely into the feel of the ordinary emotion. But now this gets its completion only as we keep clear its relation to the whole process of which it is a part. Apparently unmeaning, such a feeling may be of the greatest importance, if it forces on our consciousness a realization of the significance of these impulses which are checked, and which might never have been valued justly had they not been forced to struggle for expression. The great problem of rational life is to adjust our originally chaotic impulses. Asserting themselves too easily, they pass and are forgotten; and when the day of deliberation comes, of taking account of stock, they fail of their right estimate. Or, blocked by more imperious needs, they simply subside, and do not get expression at all. But, pushing out blindly and tenta-

tively, and in their struggle to assert themselves bringing about the upheaval of our whole nature in an emotional crisis, they not only force us to attend to them, but at the same time they give a rough measure of the real importance we should assign them in the economy of life. Thus the emotional feeling of grief, *e. g.*, is one of the surest revelations of the worth that things really possess for our lives. A great grief often results in overthrowing our conventional estimates completely, and giving us a wholly new outlook upon experience.

Once more, then, the world which we accept is the world which our self-expression demands—there is no other ground of acceptance. Growing knowledge is thus the instrument of self-realization; it is the satisfaction of the will. But the process of self-discovery, as a coördination of powers, is a long and tedious one. And a very essential step in the process, and so in knowledge, is the emotional disturbance to which the struggle for expression gives rise. It may be useless while life is under the dominance of unswerving instincts. But when the pause of deliberation, on which the rational life is based, once enters in, it seems to be a necessary accompaniment, to give both force and direction to the continuance of the act, and, especially, to relate it to the rest of our lives. It is this originally vague feeling which gives our first clue to the importance of the impulse. Of course, the claim is not final. It has to be scrutinized and criticised. No doubt it often leads us astray. But an emotional claim which is persistent, and which is a human claim, rather than my peculiar private experience, is *prima facie* justified in being taken very seriously. It not only will induce belief; it has a right to do so. Emotions have dangers of their own. In the form that has been so far considered, they belong to periods of readjustment, of coming to self knowledge, rather than to the period of full fruition, when we have entered on the heritage of ourselves. The period of great emotional intensity is thus the period of youth, when habits are in the process of formation. The same degree of emotional disturbance later on, when our lives are supposedly set in definite channels, would be only a hindrance to our efficiency. And the fact that thus they often are designed to

bring to light some value unrecognized, or in danger of being forgotten, makes it necessary that they should have an imperiousness and one-sidedness which are likely to result in over-emphasis. And yet if we did not trust them, we should be quite at a loss to estimate the relative weight of the various impulsive sides of our nature, except as we could reduce them to terms of their contribution to our mere physical existence; in other words, there would be no means of attaining to a knowledge of our spiritual selves, and of the spiritual world.

But now is this a complete account? Can emotion be reduced wholly to the bodily sensations which are aroused in connection with instinctive tendencies to action? Is its function merely a preliminary one, as a means for bringing about a proper adjustment of our activities; and does it therefore lapse, when these activities actually become effective and issue in free expression? I think that these questions are to be answered in the negative. That the emotion is not wholly identical with organic sensations, seems to be the conclusion toward which psychology is tending. To me it appears that there is a special *quale*, which cannot be reduced to anything more simple and elementary. It would take too much space to discuss the point adequately. In so far, however, as it is involved in an answer to the second question, the matter is less complicated, and it is easier to appeal to the testimony of experience. And I think that without doubt there is a deeper and steadier quality of emotional feeling, which not only is not prejudicial to immediately effective action, but which is an essential element in all our higher active experience. Even Spinoza, with all his hostility to emotion, has to admit the metaphysical validity of the emotion of intellectual love. There is, it is true, a constant tendency in human life for action to become automatic and merely habitual, a tendency, therefore, for us to lose the realization of its meaning. And by reason of this deadening effect of habit, we never wholly outgrow the need for what I have called the emotional disturbance, to break through the crust of indifference, and call us back to a conscious realizing of ourselves, and of what we are doing. But just so far as this benumbing influence of custom gets the upper hand, we fall

short of the truest and highest kind of experience. Experience that is real and spiritual does not stop with mere doing. Our true lives are lived only as action carries with it the full consciousness of its end and relationships. But now, furthermore, this is no merely intellectual consciousness. It involves also, and necessarily, a feeling attitude towards the objects which are represented in our consciousness on its cognitive side. What would social life be worth, that did not carry with it the continued presence in our social activities of those human feelings which are evoked by our relationships to our fellows? How vastly less significant would be our dealings with the objective world of nature, were we to lose from our experience the pervading sense of the beauty of this world. Such feelings are not merely incidental, merely preliminary. They do not involve any let up in the efficiency of action. They are, rather, inseparable aspects of the spiritual, or significant, side of active experience itself.

Accordingly, the function of the emotional disturbance, in bringing values in experience to light, presupposes this other and deeper aspect of emotion. As a feeling attitude toward the objects of our experience, it is an original demand of man's nature, and points to that which we may regard as entering into the constitution of the real nature of the world. It postulates, indeed, not primarily what we are accustomed to think of as the existence of things or events, but certain relationships which have to do with their value and meaning. It attaches itself commonly to facts of which some knowledge already is assumed; it interprets its object, rather than creates it. It is, consequently, different in this respect from the immediate physical demand on the basis of which we posit the world of things. And yet in both cases, — the practical need and the emotional need, — we have what is equally a demand of our active nature, a requirement of life. And if we have a right to believe that things exist on the basis of the physical demand, we have just the same right to believe that they have, objectively, the direct value for consciousness which alone will satisfy the needs of feeling. And, furthermore, if there are persistent and universal emotional needs which,

apparently, will only be satisfied by attaching themselves to a particular objective fact of a certain kind, these may fairly be given some weight in any reasonings about the probable truth and reality of that fact, and of whatever it involves.

I do not wish to be understood, however, as holding that this is a complete statement of the matter. The impression which the advocates of the claims of will or feeling sometimes leave, is that a man has a right to believe what he wants to, undeterred by the claims of logic. Now, as I have indicated, there does seem to me to be a sense in which we may say, with Hume, that reason is the slave of the passions. Reason is mediate. It does not furnish us the matter of knowledge; this we have to postulate on the basis of fundamental needs. But this does not mean that reason has nothing more to do than find for us the way in which we may gratify our desires. It is not a slave, but a trusted servant, — a servant who oftentimes knows his lord's will better than that lord himself. For the higher task of reason is to assist in self-knowledge; to teach the impulse, often blind and isolated, to understand itself, by showing its relation to the rest of life. Reason is the adjusting, the harmonizing factor in life. It takes the data which the assertion of the will supplies. But it transforms these data essentially, by removing them from their isolation, and throwing on them the light of a larger experience.

This makes it possible to place the so-called sentiment of rationality, in a way to do justice both to reason and to feeling. It is the impulse to harmonize our experience. Even the claim of reason is, again, at bottom practical. If a man does not want to be rational, no power on earth can make him admit the necessity of not contradicting himself. But if we are in any sense unitary in our natures, this impulse must be ultimately a necessary one. As philosophers, we cannot without self stultification deny its ideal claim. Still, practically, we may be perfectly justified, on occasion, in postponing its satisfaction to some more imperious need. And, theoretically, its satisfaction may easily be premature and empty. For rationality is in itself an abstraction. There must first be something to rationalize, to harmonize. A harmony may be won on too easy terms, by

ignoring part of the data. And it is primarily to our willing and feeling selves that the content of thought goes back. Thought and feeling are thus alike necessary and interdependent. We must harmonize all the facts, *and* we must have all the facts to harmonize. It is perhaps unfortunate that a defect of logic should come to stand so exclusively to the philosopher as the unpardonable sin. Consistency is, in a way, his special business. But, after all, philosophy is more than mere logic or methodology; it stands for content as well. Whatever growth in knowledge may be, growth in wisdom is most assuredly no mere record of logical analysis. Great changes in belief, epochs in our intellectual history, are seldom due primarily to mere argument, but, rather, to the half unconscious ripening of experience, the transforming, and suffusing with new meaning, of the old facts, brought about by processes lying back of anything we can put, at the time, in syllogistic form. What Newman says of his own development is true normally: "For myself, it was not logic that carried me on; as well might one say that the quicksilver in a barometer changes the weather. It is the concrete being that moves; paper logic is but the record of it."

As I have said, therefore, an emphasis on the abstract need of harmony may sometimes be a mistaken one. And when in any downright and general way reason is opposed to the claims of feeling, I think such will be found to be the case. The appeal to reason which the scientist, *e. g.*, makes, may often involve the assumption that the sort of harmony which has already been brought into a certain group of facts — physical facts — is final, and a refusal to take the trouble to go back of this. And so whatever will not find its place within this particular synthesis, is for that reason to be rejected. In the face of such an attitude, a man has a perfect right to say, if he chooses: I am not able to see just where the reconciliation lies. But, meanwhile, there are requirements of my nature which your particular synthesis does not satisfy; and I shall continue, in spite of argument, to hold that these stand for reality and truth. Intellectual consistency is a jewel which may be purchased at too dear a rate. And, on the whole, this is a rational position to take. If it is a



question of giving up a good share of the content of life, in the interests of a formal consistency, it may be the part of wisdom to take the content. Better a fulness of life which outstrips the logical insight, than an intellectual satisfaction won by reducing life to Procrustean limits. This ought to mean no disrespect to logic or to reason. It ought not to deny the possibility of attaining to a harmonious insight, nor the desirability of this. But it may well be the wiser part to regard this as provisionally an unattained ideal; and to prefer a temporary defeat of reason, if it leaves room for a richer harmony in the future, to a present, but barren, victory.

However, it is not well to give the impression of trying to shelter a weakness in logic under the protection of a demand of feeling. The philosopher cannot possibly abdicate the task of striving for consistency. And, in the long run, a belief which persistently refuses to fall in line with the less emotional aspects of truth, — scientific truth, in particular, — will inevitably suffer. Sooner or later, any remnant of blind feeling and aspiration, any mere setting of the will, must be beaten in the contest with the leadings of the rational insight. Present satisfactoriness to feeling alone is no ultimate test. Man cannot get away from the fact that he is a rational being, a searcher for truth; and in Plato's words, "a measure of such things which in any degree falls short of truth, is not fair measure." I only insist that feeling sets a real problem for reason, which is entitled to serious consideration. Other things being equal, an intellectual construction to which feeling can attach itself, — the feeling of mankind, and not simply of the individual, — has a big lead in the struggle for survival. It is to the other side, however, that I wish now to devote a few words in conclusion, — the side which has to do with the testing of truth. And what must in one sense be the final test, is already implied in the statement of the point of view. For if belief depends upon the needs of life, if reality is a postulate, then that in the end will be accepted which actually *works*, which gives the possibility of free and harmonious self-expression. And, accordingly, there is continually in operation in the realm of our beliefs this checking and selective force. We have

not the right to believe everything to which we may feel inclined. It is not enough that we should make the demand; in addition, reality must stand ready to meet the demand, to honor our drafts upon it.<sup>1</sup> To the holding of a rational belief, it is quite essential that we should have done this active experimenting, and should have been willing, moreover, to accept the results. The recognition of this qualification will take a good deal of the force from protests against the general point of view, on the ground that it makes no distinction between believing a thing true because we wish it so, and because we actually find that it is so. The former attitude we do condemn. But our condemnation is not due to the fact that the belief is a postulate. We condemn it, because it stops with a mere passive acquiescence in the first vague and half-formed desire, — which may or may not be a real and permanent demand, — without recognizing the need of a further test; or, because it persists stubbornly in its first opinion, in the face of new and conflicting results of experience that ought to be taken into account. Experiment, then, is essential to rationality; and, along with the demand, there must go the willingness of the universe to meet it. And here, again, physical and spiritual beliefs are on no different footing. Both are capable of being tested, though not, of course, in precisely the same way. We do not have to take our spiritual beliefs wholly on trust, and

<sup>1</sup> We can, of course, actually *reconstruct* reality to an extent; and this needs to be insisted on in its place. But it does not seem to me to help us much, if we over-emphasize it and take the position that we can in any thoroughgoing way make reality what we please; that the truth which the act accepts is really created by the act. It is true that our lives enter into the complex of the world, and contribute something to the process of reality. Our acts *make* certain results true. But they can do so only as they presuppose a certain determinate system of reality, conducive to this result which they did *not* make. Moreover, we have to accept not merely a certain general character of the world, but a vast number of specific truths which we cannot make or unmake, and within which the possibilities of our action are definitely limited. We never can tell, it is true, what things are possible, except by assuming at the start that everything is possible, and then trying to make it go. But we do not get very far before we discover that everything is distinctly *not* possible; and, moreover, we cannot succeed in the *real* possibilities, save as we recognize clearly the limits which experience discloses, and mould our desires into harmony with the real. We have scant reason to believe in, most certainly we have no reason to hope for, the existence of a being at the center of things whose nature is so indeterminate as to present no bar to the satisfaction of any and every wish we may happen to form.

we ought not to do so, any more than we take a scientific law wholly on trust. Just as science puts all sorts of tests to the universe, in order to verify its laws, so life makes its experiments to verify its intuitions of meaning. And until the experiments have somehow worked, we cannot rest with any assurance that this particular demand is justified. History is strewn with ideals, just as it is strewn with scientific hypotheses, which further experience has had in some measure to discard as inadequate.

In the large sense of the word, therefore, the consistency which truth demands is a practical, rather than a *merely* theoretical one. It is consistency, not of facts simply, but of the concrete flow of life. The intellect is not a thing by itself, which can be satisfied independently of life as a whole. The attempt to take it so, inevitably leads to an abstract, contentless, static conception of reality, which meets no need except the need of bare logical unity. On the other hand, there seems to be an obvious sense in which, at any given time at least, the final test is the test of intellectual consistency, — the inclusiveness of the system of related facts, in terms of a thought content. In conclusion, I wish to consider briefly the relation between these two things, — intellectual consistency and practical consistency.

An objection may be brought against the statement that, for us, truth is that which will work. We make a distinction, it is said, between what is practically useful, and what is true. Even more sharply do we distinguish between truth, and that which merely satisfies our feeling. As Sir Leslie Stephen says: "The fact that I act upon a belief, and am satisfied with my action, proves that it is in harmony with my emotions, not that it is a true statement about facts." Is there no ground for these distinctions?

Undoubtedly, of course, there is. And a somewhat closer examination of what their justification really is, will serve to bring out the point I wish to emphasize. And first, on the negative side, I would repeat once more that, in the largest and most ultimate sense, we cannot dissociate truth from practical sufficiency or usefulness. 'Facts' come themselves to be facts, for us, by their relation to active demands. And logical proof

always involves a body of facts already accepted. It cannot move in a vacuum, or create its own subject matter.

What, then, is the justification for contrasting a merely useful belief with a true belief? It goes back, I think, simply to the distinction between that which is justified by its practical success in a single limited experiment or group of experiments, and that which would conceivably give a satisfactory outcome in the case of *every* activity, actual or possible, that enters into experience in its widest sense. A certain crude hypothesis which the scientist calls erroneous, will, in a given class of instances, work out practically all right. He nevertheless regards it as erroneous, because there are other cases in which, if it were acted upon, it would fail to get the desired results. The 'true' hypothesis of the scientist does not, at bottom, rest upon evidence different in kind. The only difference is that it is successful in a greater number of cases. If he believes that it will apply in all cases, then he holds it to be true; and he contrasts it with the less universally successful hypotheses which are only 'useful' in a practical way.

If a given man's experience were absolutely a unit, if it could be summed up in a single act, in which all the elements that ever enter into his life were consciously present, then immediate practical sufficiency, as opposed to intellectual consistency, would be for him the final statement of 'truth.' But obviously this is not the case for human beings, whatever it may be for a higher intelligence. Our life is a string of active experiences, or experiments, of a widely varied sort. Each has to recognize conditions of its own. For no one of them is it necessary, or possible, to take into account all the facts which the more inclusive stream of experience has been the means of revealing to us. On the other hand, any one of these facts may prove to be needed at almost any moment; and therefore it is desirable to bring them into some sort of permanent unity for our thought. Since, then, no single practical experience can ever hope to utilize the whole mass of them together, the test of truth lies, after all, at any given time, in a real sense in the realm of intellectual consistency, rather than of immediate practical success. Not

that practical success is irrelevant to logical consistency. Any fact that logic has a right to assume in its attempt at harmonizing, had its justification originally in some particular practical experiment, and was demanded by some particular need of life. But, nevertheless, the only way in which to get the complete process of experience into a unity, and avoid the risk that practical success in any particular case should usurp the right to legislate for reality as a whole, is to leave the immediately practical sphere, and turn to the work of intellectual or logical construction.<sup>1</sup> Any given 'belief' stands not simply for the statement that a certain plan of action will in this particular instance work. Such a result tests the belief; and it takes its place in the system of facts which the belief represents. But this system involves much which cannot enter directly into any experiment by which the probability of the truth of the belief is increased; and the only way in which this can all be brought within an inclusive unity is through the medium of thought. The data, once more, are tested by experiment; but the unity of the data as a whole can only exist for us in the intellectual realm. Even the testing experiment has *validity*, a *rational* value, not as the mere brute fact of success, but as its result enters for our consciousness into a far wider system of related fact.<sup>2</sup>

And this involves also the relative, though not the absolute, justification of Sir Leslie Stephen's condemnation of emotional tests. I have tried to show that emotions have their rights in knowledge. But when they are taken in an isolated way, they are very likely, as experience shows, to prove misleading. In

<sup>1</sup> Unless, of course, we hold that the validity of knowledge is *absolutely* exhausted in its functional use in particular experiences. I have assumed throughout that 'truth' has the meaning it is commonly taken to have, — that it refers to an objective system of reality, to be utilized in our experience, but having also a relative independence of existence. I trust I shall not be understood as meaning that this intellectual construction, and, indeed, the very aspect of it according to which it represents the whole of things, does not have its practical value for further experience. I only mean that no single experiment can test its value so completely as to enable us to sink the intellectual in the practical statement of the criterion.

<sup>2</sup> 'Facts,' as they form the basis of our intellectual construction, and are distinguished from hypotheses, might be defined as postulates which are based upon a need in so far as it can find expression in a single act, and which do not look beyond this single act for their immediate test.

particular, they need to respect the claims of that great section of experience which has to do with the external world, and whose basis is so deep-seated in our nature that we can hardly avoid the compulsion to take it as 'fact' in a peculiar sense. Before it can really justify emotional beliefs in detail, a philosophy is bound to have some way of showing that the two sides of experience can consistently be thought together, without prejudice to either. The logical problem is the main problem for the philosopher, and can never be put by him in the background.

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## REVIEWS OF BOOKS.

*The Pathway to Reality.* Gifford Lectures delivered in the University of St. Andrews, 1902-3. By RICHARD BURDON HALDANE. New York, E. P. Dutton & Co., 1903.—pp. xix, 316.

This volume embodies the first set of Gifford Lectures delivered by the author in the University of St. Andrews in the winter of 1902-3. Mr. Haldane has long been known to the philosophical world as (with Professor A. Seth Pringle-Pattison) joint editor of the epoch-making volume, *Essays in Philosophical Criticism*, published in 1883 and dedicated to the memory of T. H. Green, and as (with Mr. Kemp) the translator of Schopenhauer's *World as Will and Idea*. Numerous philosophical essays and reviews from his pen have also appeared from time to time, while his volumes upon *Adam Smith* and upon *Education and Empire* are to the general public some of the signs of his well-known activity in the realm of economics and politics.

To the student of the history of opinion in the nineteenth century, it is surely one of the signs of the vitality of the British neo-Hegelian movement that it had the power (now about a generation ago) not only to arrest and influence some of the best minds among the youth of the Scottish and English universities, but to send forth out of that number into the different avenues of life men who are now occupying leading positions in spheres of activity other than that of the merely professional teacher of philosophy. And even a bare perusal of some of the pages of the *Pathway to Reality* affords ample confirmation of the wisdom of the University of St. Andrews in affording to the public the opportunity of receiving in permanent form the outcome of the reflections of a man like Mr. Haldane, who has had the ability not only to continue into middle life the philosophical studies of his youth, but to incorporate into the philosopher's search for reality the results of a wide experience of professional and public life, and also those of a persistent attempt to comprehend the scientific development of the last half of the century. There is throughout the lectures a breadth of perspective and a maturity and a freshness and an air of *rapport* with reality and real living that distinguish them from some of the more strictly scholastic and technical outputs of the Gifford Trust. And even if there be in the manner of their presentation what the layman undoubtedly feels to be none the less a professional cast (that of the pleading of the successful barrister who is always marshalling his evidence and

recounting his points and positions with a view to cumulative proof and conviction), it may, it seems to me, be safely affirmed that the *Pathway to Reality* will easily take its place in the general literature of the day as one of the most readable presentations of the idealism of the nineteenth century.

The philosophical student, particularly if he happen to be a student whose fortune it was to pass under the same academic influences that shaped the thinking of Mr. Haldane, very readily perceives in the lectures the existence and operation of the familiar neo-Kantian point of view, and also the familiar determination of the loyal neo-Hegelian to think himself in the profession of his philosophic faith as free as possible from the characteristic limitations and defects of the first presentations of British academic transcendentalism. He is nevertheless compelled to admit to himself that old as may be (at this date) the lesson of the Kantian philosophy regarding the contribution of the thinking subject or the thinking consciousness to what we believe to be reality itself, the showing made in Mr. Haldane's book of the bearings of philosophy upon common sense and common sense notions of reality, and upon the speculations and constructions of science and upon the desire of intelligent free-thinking persons to have in palpable and definite form the outcome of metaphysical philosophy, is something that pricks to the quick one's sense of the responsibility of the philosopher to endeavor to affect the thinking of his day and generation.

The contents of the present volume fall into two parts, Book I (covering six lecture-chapters), on the Meaning of Reality, and Book II (with four lecture-chapters), on the Criticism of Categories. The quest of Book I is clearly indicated in the words: "To me it seems that by God we mean and can only mean, that which is most real, the Ultimate Reality, into which all else can be resolved, and which cannot itself be resolved into anything beyond; that in terms of which all else can be expressed and which cannot be itself expressed in terms of anything outside itself." On Kantian principles, it soon becomes apparent that "The relation of *object to subject* becomes . . . the deepest relation of existence, because existence has now resolved itself into the fact that the subject thinks the object, presents itself in a fashion which is not arbitrary but determined by laws of thought"; and the next question accordingly is: "What must be the nature of the mind which thinks thus objectively, and which, even as manifested in individual form, compels the individual to think thus objectively?" This is answered negatively in the second chapter (where Mr. Hal-



dane's enmity to the construction of Hegelianism as Panlogism comes out). ". . . The nature of Ultimate Reality cannot be sought in a world of universals,"—the universal and the particular being "only abstract aspects of a single and indivisible reality which *is always individual in character*" [italics mine]. And positively in Chapter iii, where in accordance with much Hegelian tradition "Spirit" or "Mind" seems to be the best phrase "to express the view of the ultimate reality of things which insists on the indissoluble union so far as existence is concerned of subject and object, of universal and particular." In the next chapter we are led to believe "that the world seen from the higher standpoint [of Spirit] is disclosed as reality, as compared with the world seen from the lower standpoint of what by contrast is appearance only." Then a chapter is devoted largely to a defence of the idea that "Hegel never tried to deduce the *that*, although he has been misrepresented as doing so and abused in consequence. The very foundation of his philosophy was that you could not deduce the *that*, and agreeing with Aristotle in this conclusion, what he endeavored to do was to unfold the *what*, the characterization of the *that* with which he had to start." The last chapter of Book I closes with some fresh and interesting material on the changes that have taken place in German idealism or transcendentalism in consequence of "very much more prominence" being given "to the ideas of life, of growth, and of volition or will than was formerly the case," and of the influence (1) of Schopenhauer and (2) of Herbart and Lotze. The influence of the last-mentioned two men has almost "revolutionized the sciences of logic and psychology," and study of the "modernized logic and psychology" leaves the student with the conviction that "neither in mere reflection nor in mere feeling is the ultimately Real to be found . . .," but rather in the "conception of the universe" as the "unique Individual that ultimately discloses itself as the totality of Experience, or as all-embracing Mind, according as it is looked at from one side or the other." This bare statement of steps and stages in Mr. Haldane's argument gives but the poorest kind of idea of the matter and manner of the lectures which, although manifestly reposing on what is, perhaps, the most justifiable interpretation of the Kanto-Hegelian doctrines, must also be regarded as a series of fresh and broadly conceived efforts on the part of a competent and independent pupil, who is fully abreast with the work of modern science, to unfold the analysis of the real that is opened up by the Critical Philosophy. And as has been indicated, in this analysis the results of psycho-physics and of post-Hegelian philosophy are laid

under contribution, as well as the facts of modern science and the realities of life.

The practical applications of Mr. Haldane's reflections are contained in Book II, where, in accordance with his idea of the problem of philosophy as the effort "to find the highest categories under which to think the individual," an attempt is made to treat critically some of the leading conceptions of physical science, of mathematical science, of zoölogy and chemistry, and physiology and psychology—a return being made in the closing pages to the philosophy of personality or spirit which is the key-note of the whole.

Mr. Haldane is under no misgivings or misapprehensions about his work, nor is he inclined to attach much importance to any such recent ideas about the needs of "philosophical reconstruction" as he might perhaps have been expected to countenance from the fact of his published translation of Schopenhauer or his evident interest (in this volume) in the phenomena of volition and of science and of psychophysics. He talks of having elaborated but a "single conception" which is "by no means new," that of the union of the universal and the particular in the concrete individual. With the eyes of a true Hegelian, he sees this union in both ancient and modern philosophy, in Aristotle as well as in Kant, and he scruples not, either when hard pressed or when perfectly sure of his ground, simply to open up—for all purposes, those of exposition as well as of criticism—and to quote section after section from the writings of the master, bringing his first set of lectures to a close with the outspoken avowal (in the manner of many men of to-day) that he has learned "all he knows" from Hegel, and that in Hegel as the modern Aristotle is to be found more than twice all that is contained in the *Pathway to Reality*.

It has been suggested that one of the features of his subject-matter is the fact of the distance at which he shows himself to be from the early epistemological versions of the teaching of Kant, or from the supposedly panlogistic interpretations of the Hegelian philosophy; and if there are two things that Mr. Haldane never tires of impressing upon his hearers (for he retains in his publication his lecture form and method, that of speaking *extempore* from carefully prepared notes—something of a feat, surely, if we think at once of the recondite issues and the finished phrase and diction of his book), these are, first, the imperfect character of the representation of the Kantian philosophy that is expressed in the notion that thought makes nature, or that the world is but a plexus of intelligible relations, and second, the fact that Hegel's real strength lay in his hold of the concrete and in the

true interpretation he has enabled us to put upon the teaching of Aristotle that the real is the individual, — that the universal cannot be divorced from the particular.

Regarding this ground point of Hegel's supposed panlogism and the *partie honteuse* of Hegelianism (the passage from thought to nature), Mr. Haldane takes occasion to canvass (in addition to the objections of Lotze) some of the well-known criticisms of his *quondam* literary colleague, Professor Pringle-Pattison, reminding both Professor Pringle-Pattison and Lotze, after a comparison of passages in Hegel with Pringle-Pattison's objections and after some reflection upon the nature of Lotze's work and personality, that "Hegel would not have recognized that there was any real issue that could legitimately be raised between his point of view and theirs."

Further confirmation for his broad and all-inclusive interpretation of Hegel is found by Mr. Haldane (and here he opens a fruitful line of study and interpretation) in the attitude of Professor Royce as one of the "most thoughtful students of Hegel." While to Royce "Personality . . . is essentially an ethical category," no one "would more strenuously refuse than he to separate intelligence from will." That is, to Mr. Haldane, Professor Royce is a student of Hegel who did not come to the idea "that reality is nothing but abstract thought or reason" and who may therefore "be set against Professor Pringle-Pattison." As for this, the reader of Professors Pringle-Pattison and Royce is inclined to ask himself whether Mr. Haldane sufficiently allows for one or two things, viz., the fact that, in his book on *Hegelianism and Personality*, Professor Pringle-Pattison is scrupulous enough to arraign against each other passages in which Hegel leans now to a panlogistic and now to a concrete view of reality, and also that Professor Royce takes pains in the preface to his second set of *Gifford Lectures* to state the fact of the gulf that separates his earlier (almost completely panlogistic and "absolutist") from his later view of reality. The reviewer speaks thus not out of any fatuous desire to raise the issue of the *letter* in the case of Hegel, a man who has indeed taught us that the world is ultimately Spirit and the revelation of Spirit, but to raise the point of the greater apparent justice accorded by Professor Royce in his second set of lectures to the note of *purpose* and finite individuality and ethical personality than can well be accorded by Mr. Haldane in his first set, or than was accorded by Professor Royce in his earlier philosophical writings. Nor does he desire to forget that Mr. Haldane says of Professor Royce: "I must say for myself that I think Professor Royce goes to the other extreme,

and that to be logical he would have to try to deduce, as he almost seems to do, the individual of experience itself out of what he calls purpose or meaning." Only when one does succeed in remembering this, one is inclined to wonder how, after this censure on the part of Mr. Haldane, Professor Royce can still do duty as a henchman of Hegel, except in the general sense in which any thoroughgoing believer in the continuity of post-Kantian metaphysic is necessarily a Hegelian. What, in short, I venture to opine (in all admiration and recognition of the successful execution by Mr. Haldane of his immediate and confessed purpose in his first volume) is whether in what Mr. Haldane concedes to Pringle-Pattison and to Lotze and to Royce and to Schopenhauer, and in what he finds (*for* these men) in Hegel, and in what he in his own cogent and all-important pages (dealing with human personality) teaches about the impossibility of separating intelligence and will, there is not ample indication that the complete (or completed) critical philosophy demands a working out of the categories from the practical as well as from the theoretical point of view, — from the point of view of the ends of action and of human purposes as well as from that of the ends or the end of knowledge. This very idea, to be sure, is admitted by Mr. Haldane in his expressed concurrence in the philosophy of Royce and Münsterberg, — that it is for social and practical purposes that we make our ordinary distinctions about the supposed realities of common sense and the supposed realities of scientific analysis. But, apart from the emphatic assertion (in the central portions of the volume) just referred to ("The world is will just as much as it is idea, and idea just as much as it is will"), we are led to look beyond the present volume for a philosophy of the fact suggested in the following typical sentence: "If our purposes determine the aspect of the world for us then moral ideals must have played a large part in shaping and fashioning that world." We shall wait, therefore, with the greatest interest for Mr. Haldane's second set of lectures, in which he promises to deal with the meaning of the Hegelian conception of the world as one intelligible system and of its supposed realities as "only abstract aspects" of a "single and indivisible reality which is always individual in its character" *for* "*Conduct and Religion*." In particular, we shall await the unfolding of the logic that shall relate the distinctions and categories arising out of our moral life and its purposes with the distinctions and categories arising out of an attempt to think the world as a unity. And we shall await too the philosophy that shall connect our views regarding the imperative reality of the moral ideal as realizable in a community of persons

with Mr. Haldane's promise to return in his second volume "to the conception of personality in the highest sense," in which "the categories of the One and the Many would of course be transcended." In this present volume he mentions in one place as conceivable Professor Royce's idea "that there may be an organic and conscious life in which we are but as cells in a larger organism," and in another that "along certain lines there is a possible conception of personality so much above the plane of human experience that it must properly become an object of what we call worship;" but, so far as the logical framework and foundation of his argument are concerned, it would at present *seem* that: "What we call the finite self, a thing with a proper name, manifesting itself in a body, one day to be carried off in a coffin, exists only within the sphere of experience, and the notion of it is a secondary and derivative one." I must confess, however, that it is part of my object, in drawing attention to these antitheses and these questions, to show how thoroughly Mr. Haldane has confined himself in this volume to that freshly conceived and remarkably modernized version of that unification of experience and reality as conceived along Hegelian lines which is his real strength and his real characteristic.

An admirable feature of the lectures is the author's persistent and thoroughgoing recognition of the unity and continuity of philosophical reflection in the modern and in the ancient world. The volume would thus be valuable either to the young student as a fresh introduction to metaphysical problems or to the person of average education who is desirous of obtaining a readable presentation of the main issues of German metaphysic in relation to the speculations of Plato and Aristotle, — as well as (as has been suggested) to the science of the century.

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*Dictionary of Philosophy and Psychology.* Written by many hands and edited by JAMES MARK BALDWIN, with the coöperation and assistance of an International Board of Consulting Editors. In three volumes, with illustrations and extensive bibliographies. New York, The Macmillan Company; London, Macmillan and Co., Limited. Vols. I (1901) and II (1902). — pp. xxiv, 644; xvi, 892.

There is a good deal of presumption in any attempt by a single individual to review a dictionary of the compass of this one. The two

volumes cover an immense range of topics, and the matter is written by a large number of scholars eminent in the particular subjects on which they write. A reviewer cannot hope to do more than say how the volumes have met his own demands in a working use of them as books of reference, and the demands of any given reader concern naturally only a small part of the terms and subjects handled. The disciplines specifically mentioned as receiving extended treatment, in addition to the subjects named in the title, are Ethics, Logic, Æsthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science (and Mathematics), and Education. A work covering such an extensive and varied field can be tested only by persistent use over a long period of time and by the combined judgment of many scholars. As Aristotle says, *ὁ χρόνος τῶν τοιοῦτων ἐύρετης ἢ συνεργὸς ἀγαθός* [ἐστὶ]; and I have no doubt that the judgment of time will be favorable. The third volume will contain classified bibliographies, and, if adequately done, should prove one of the most serviceable parts of the work. The distribution of space in the treatment of the several disciplines was carefully considered and approximately the following percentages are the result:

Per cent of space.		Per cent of space.	
Philosophy,	10.1	Psychology,	10.1
Ethics and Anthropology,	9.6	Mental Pathology and Neurology,	9.6
Æsthetics,	9	Logic,	9
Philosophy of Religion,	8.1	Biology,	8.1
Social and Political Philosophy,	6.5	Economics and Physiology,	6.5
Philology,	4.4	Law,	4.4
Education,	2.3	Physics (Mathematics),	2.3

As to this distribution of space, the judgment of the reader will, of course, be determined somewhat by the bias of his individual interest; but students of the traditional philosophical disciplines, as they are arranged in our universities, will probably feel that the Dictionary would have gained by less attention to terms whose interest for philosophy and psychology is only remote. About 25 per cent of the volumes is devoted to such extraneous matter. Although this matter is in a certain sense extraneous, really only those elements in economics, law, philology, physics, etc., which are ancillary to philosophy and psychology, have been admitted to consideration in the Dictionary. Their incorporation, while perhaps entailing some loss of space for philosophy, materially increases the scope of the work's usefulness. It is not likely that any student of philosophy

will differ from the judgment of the editors in this matter after a just use of the volumes for reference purposes. The complaint of such readers is apt to be not "too much" but "too little," and it is a constant grievance in the use of dictionaries and encyclopedias to discover that the thing one is looking for is missing. In completeness of definition and range of matter, Baldwin's Dictionary far outstrips all its predecessors. The title 'Dictionary' is here used in a liberal meaning. The work is a composite of dictionary and encyclopedia, *i. e.*, it is made up of vocabularies and definitions of terms in the manner of a dictionary, and of the exposition of important topics in the form of essays or articles, in the manner of an encyclopedia. This composite character is a great gain to the work. The treatment of Vision, *e. g.*, on which has been written one of the longest and most satisfactory articles in the work, would have been valueless had it been dispatched in the form of a definition.

The completion of this enterprise is a notable event in the history of philosophical studies in this country, and is a matter of congratulation not only to the editors, but to all students of the disciplines here discussed. The labor has fallen most heavily on Professor Baldwin, the editor-in-chief, who not only had to determine the general plan of the volumes and see them through the press, but who has been a large contributor to their content. To him especially the obligations of readers are due. He has been assisted by a considerable staff of English, German, French, and American editors, who have executed the plans originated in the main by the editor-in-chief. During the progress of the work the staff was diminished by the death of three of the most distinguished editors, Professors Sidgwick, Adamson, and Marillier, and Dr. Tosti withdrew on the publication of the first volume. The third volume, which will contain classified bibliographies, edited by Dr. Rand, is expected from the press shortly.

One of the best methodological features of the work is the revision of each article by other specialists, who become jointly responsible with the writer. In many cases an article is the joint product of two authors or is divided into parts under separate authorship, and the varying kinds and amounts of responsibility are made known by convenient marks. This coöperative feature in the work has doubtless been of the utmost importance in eliminating errors, one-sidedness, and idiosyncrasies or inconsistencies in treatment. Editorial revision appears to have been planned and carried out with success, although necessarily with immense cost of time and labor. The administrative aspect of the work is marked not only by insight, but by extraordinary

patience and attention to details. In spite, however, of the plan of coöperative writing and revision, the Dictionary exhibits in some cases insufficient editorial stringency. I am convinced the work would have gained in quality had greater attention been paid to clearness and significant content in the articles, to the ideal needs of a reader seeking compact statements of fact or theory, and had the editorial knife been more relentlessly applied to the excision of irrelevant and trivial matter.

In planning and writing the Dictionary, the editors found relatively little assistance in foreign works of a similar sort, although the help derived from Noack, Eisler, and Eucken is duly acknowledged. These works are of entirely different structure and compass. Bayle's great work (*Dictionnaire, historique et critique*, originally published at Rotterdam in two vols., 1695-97, and thereafter in different languages in many editions — the last edition in Paris in 16 volumes, 1820-24), although containing a great mass of philosophical matter, is rather a general encyclopedia. Fleming's *Vocabulary of Philosophy* (4th ed., 1887, enlarged by Calderwood) contains no biographies and a relatively small number of terms briefly, though often well, defined. Noack's *Philosophie-geschichtliches Lexikon* is confined to biography and is valuable in its field. Kirchner's little volume in the *Philosophische Bibliothek* (*Wörterbuch der philosophischen Grundbegriffe*, 2d ed., 1890) is a useful compendium of salient terms, rather meagrely defined, and lacks bibliographies and etymologies. The two books of this sort that have left most traces on the content of the present dictionary are Rudolf Eisler's *Wörterbuch der philosophischen Begriffe und Ausdrücke* (Berlin, 1900), and Eucken's *Geschichte und Kritik der Grundbegriffe der Gegenwart* (2d ed., 1892, Eng. trans. under the title *Fundamental Concepts of Modern Philosophical Thought*, N. Y., 1880) and *Geschichte der philosophischen Terminologie* (1879). The first named book by Eucken is a series of essays on a dozen central concepts of philosophy, and, if the method were carried out in a dictionary, the result would be an encyclopedia of monographs of the compass of the *Britannica*. Eucken is a historian of the first order, and it is the historical evolution of a concept that has for him the greatest attraction. While the history of a word, as Coleridge said, often conveys more knowledge than the "history of a campaign," yet it is not with the historical aspects of a concept that a reader is apt to be primarily concerned in consulting a dictionary. He wants to know the present status of its meaning, the present content of a concept. It may also be very interesting and enlightening to



know how it grew into its present condition. This is partly provided for in Baldwin's Dictionary by giving Greek and Latin origins, and by the citation of meanings in the writings of certain philosophers or periods. Although the editor says (preface, p. x) that "meanings, with their historical development, together with the terms that have expressed them and their variations,—these are the essentials of our quest," the reader is not likely to feel that the genetic development and life-history of terms plays a very considerable rôle in the work. Important usages in ancient and mediæval philosophy are indeed frequently noted, and this would necessarily be the case in a large part of the terminology of deductive logic, theology, and in such metaphysical terms as substance, essence, form, cause, category, idealism, etc. While I should like to see the biology of terms and meanings in many cases more thoroughly considered, I am not disposed to say that this is a serious lack in the volumes, for after all it is the main business here to explain meanings in their being rather than in their becoming. The functions of the Dictionary are definitely conceived: (1) the standardizing of terminology; (2) the pedagogical function of presenting the results of science and criticism (*i. e.*, the factual results of scientific inquiry and their meaning for life) in the form of clear definitions. As to what success the work will achieve in the first aim, it is now impossible to foretell, but so far as my use of the volumes extends, they are in my judgment admirably fitted to perform their second function.

Of the parts of the work which I have examined, I find the biographies least satisfactory. The fault is apparently due to the fact that the principle of editorial coöperation was not applied in these articles as it was elsewhere. There are many sins of omission and commission here,—the insertion of the unfit and the omission of the fit. While no two scholars would probably agree entirely on a list of names for this philosophical Who's Who, I believe particular dissatisfaction will be felt both with the selection of this list and with the character of the treatment. Fortunately, it is the least important part of the Dictionary and can best afford to be inadequately treated. One of the main troubles with the biographical notices is that they do not tell us the really significant things. Instead of mentioning some salient theory, some service to philosophy, or an important writing, the articles often give us only a few unimportant or even trivial facts. The longest biographies are those of Luther, Lully, Cicero, and Mohammed, while Aristotle, Plato, Descartes, and Kant get more scanty consideration. Whatever may have been the relative impor-

tance of these men as forces in the world's history, there can be no doubt about their relative significance for philosophy. We find Peter Browne, but not Benjamin Jowett; Emerson and Lessing, but not Laménais or Coleridge. Davidson and Atwater are noticed, but not Bekker and Bonitz, whose monumental labors on the Berlin Aristotle certainly earned them a place amongst these men; and we look in vain for Longinus, John Fiske, Jules Simon, Hegesias, Rosmini, von Kirchmann, Fr. Th. Vischer, Frauenstädt, Ueberweg, and a long list of others, who might well have replaced less significant names.

As to matters of detail, I have the following more or less unimportant criticisms to make:

It is rather a sweeping statement (Vol. I, p. 29), that Albertus Magnus introduced Aristotle's system to his time by the "reproduction of loose Arabic versions," when we consider Moerbecke's *Politics* (cf. Susemihl-Hicks's *The Politics of Aristotle*, 1894, p. 1, and Grant's *Aristotle* in series of *Anc. Classics*, p. 184), which is so clumsily exact that it has almost the value of a codex. Although Moerbecke's translation was made when Albert was advanced in years, Latin translations of the *Physics*, *Metaphysics*, and *Psychology* based on Greek MSS. (brought into Western Europe by the Crusaders) were earlier accessible to him. His commentaries on Aristotle's writings, his paraphrases, and systematic reconstruction of Aristotelian doctrine in terms of ecclesiastical dogma, depending as they do on Arabic (Alfarabi, Avicenna, Averroës), Jewish (Maimonides), and Græco-Latin sources, cannot with historical correctness be characterized as "loose reproductions of Arabic versions." Kratylus should be put under the C's (Cratylus), to maintain consistency of usage with other parts of the Dictionary. Similarly Kritias on the same page should be Critias. In the notice on Kratylus we have Heraclitus, —and elsewhere Carneades (I, 155). No mention is made of Bayle's great work, the Dictionary, while the Critical Monthly Review (I, 103), is singled out for mention. Lotze became professor at Leipzig in 1842 instead of 1843 (II, 31). Why should we have Scientific Society (II, 3) instead of the now usual Academy of Sciences (Akademie der Wissenschaften since 1744)? The Academy was founded in 1700, not 1698, and was formally opened in 1711 under the presidency of Leibniz. The further statement that it "has since become Berlin University" is incorrect. Plato can scarcely be said to have lost his liberty in Ægina (II, 303). He was deprived of liberty in Syracuse and regained it in Ægina on payment by Anniceris of his sale value as a slave. Why not Rabbi

Moses instead of R. Moyses (II, 36)? The date 1131 should be 1135. Also, we have here Cordova and at II, 514, Corduba. The general matter of uniformity of spelling has not been strictly followed up. The article on Aristocles (I, 300) should be (1) original name of Plato, the latter having been given him by his teacher in gymnastics; (2) of Messina, etc. The Ebionites are given three fourths of a column, while the Therapeutæ, who are of peculiar interest in the history of philosophy (*cf.* Philo, *On the Contemplative Life*), are not noticed, although Conybeare's book is cited under the Essenes (I, 342). The definition of Aborigines is neither clear nor adequate. "Vision and hearing are the æsthetic senses because they are the cognitive senses" (I, 10) is an unfortunate sentence and untrue. On p. 104 (Vol. I) we have τὸ καλόν for κάλλος; and on page 105 πρὸς τε καλὰ for πρὸς τι καλὰ; II, 50, παραδειγμα for παράδειγμα and τὸ τί ἐστί for τὸ τί ἐστι; I, 424, and II, 830, μίξις for μίξις; II, 829, θεμα for θέμα. On p. 72 (Vol. I) the word trans. after Ger. should be deleted. The reference (I, 186) is apparently not to Gross but Groos (*Play of Animals*, pp. 166, 328). The second paragraph (II, 8, Line of Beauty) seems to make a distinction between the 'line of grace' and the 'line of beauty,' restricting the latter to the waving line, while in the first paragraph it is defined as the serpentine line, much to the confusion of the reader, a confusion which is not removed by referring to the article on Grace. It would be difficult for a reader to get a clear idea of the *decretum salutis* (I, 258) from the article on that subject. Mackensie (I, 21) is printed for Mackenzie. The reference (II, 337) to Arch. f. syst. Philos. is apparently for Arch. f. Gesch. d. Philos. In Vol. II, 588, Stagyrte (a long since abandoned form) is printed for Stagirite. The reference to Windelband (II, 589) should be Pt. III instead of Pt. II. Lycæan (II, 496) is incorrectly used for Lycean. Lycæan is an epithet of Zeus, not of Apollo, and the reference is not to a mountain in Arcadia (*cf.* Liddell and Scott *sub voc.*). The reference to the *Metaphysics* of Aristotle (II, 613) should read 1074 a 35 f. instead of 1074 a 31 f. and for 1701 b 10 one should read perhaps 1071 b 21 or 1032 b 14; no page 1701 is found in the Berlin edition. Nanna (II, 256), from the way in which it is printed, would appear to be the author of Zend-Avesta. On p. 270 (Vol. II) Λυτόλυκον is printed for Ἀδτόλυκον and ξξω for ξξω. The date 470 B.C. (II, 334) apparently refers to the *floruit* of Heraclitus, whereas on p. 496 it is given as the date of his death. Instead of "until the time of Aristotle" (II, 334), one would better read "until the time of Plato." In the sentence "he held

that things are made up of numbers" (II, 335), does "he" refer to the unmentioned Pythagoras or to Philolaus? A similar question may be raised about "these" in "These at once seek to explain." Klazomene (*ibid.*) is used for the more correct form Clazomenæ, as found at II, 496. The Democritean atoms (*ibid.*) differ in shape, arrangement, and *position* (*cf.* Aristotle's *Met.*, 985 b 18). On the whole, the volumes have been proof-read with great care; slight blemishes, such as I have mentioned, are few when one considers the magnitude of the work.

In some cases fault may justly be found with excessive bibliographical citations, as, *e. g.*, with the bibliography attached to the article on Living Matter. In view of the explanation in the Preface regarding the distinction between these partial bibliographies and the fuller citations of literature to be furnished in Vol. III, I think this is not only unnecessarily copious but confusing to any reader excepting a student specially trained in biology, containing as it does references to many highly technical publications. And although the article itself is written with remarkable skill, the philosophical reader is bewildered when he is brought face to face with this army of titles at the end and he has not the slightest idea where he should begin the attack. The consequence will be that he will ordinarily retreat. Fortunately this objection applies to a very small percentage of the articles.

In the etymology of Metaphysics (II, 72) the meaning of *μετά* is omitted, although it is accidentally given below in the text of the article. In the article just preceding (Metamorphosis), it is translated *change*, a meaning which is not applicable here. The same omission occurs in Metempirical and Metempsychosis. In such words as Melancholia and in all words where there is a Greek equivalent of the English, I should like to see the entire Greek word given and then its parts analyzed, as is done for the term Method. In Mythology and Paroxysm the entire Greek equivalent is given without analysis. The Dictionary would have gained by the more consistent plan of giving Greek and Latin equivalent in wholes and parts. This branch of the work, however, has been done with considerable exactitude and evident care. So far as my limited use of the Dictionary goes, the subjects of Æsthetics, Biology, Philology, and parts of Psychology are in my opinion the most carefully and satisfactorily treated, and the biographies are the least satisfactory. The Dictionary as a whole is a monument of patient labor and sound scholarship, and as a work of reference it is without a rival in its own field. To its mission in the world of philosophical and psychological readers we apply the words

of good omen quoted by the Roman philosopher : *Quod bonum, faustum, felix, fortunatumque sit.* (Cic. *De divin.*, I, 45, 102.)

WM. A. HAMMOND.

*La morale de la raison theorique.* Par ANDRÉ CRESSON. Paris, Félix Alcan, 1903.—pp. 301.

M. Cresson's work presents another attempt to sketch a morality, '*sans sanction ni obligation.*' With the author's point of view thus indicated at the outset, the reader will not find it difficult to forecast the general drift of the argument. M. Cresson, however, differs from most naturalistic moralists in emphasizing the need of metaphysics. This need is made clear in Chapter I, On Method. The position one maintains in regard to duty, obligation, moral conduct, must depend upon one's view of the place man occupies in the universe ; and this is a metaphysical problem. Man may hold that he was created for a special destiny by an all-good and all-powerful Being, or he may deny that he was created for any such divine destiny, for any end external to his own nature. If the former view be true, one may still attach the traditional significance to the terms moral obligation, duties, good and evil ; in short, there is such a thing as imperative morality. But the author holds that the 'deistic' view of the world (and under the term 'deistic' he apparently includes all theistic conceptions) with the deistic theory of morals which is founded upon it, is an exploded fiction. The presuppositions of a deistic moral philosophy are not founded in reason, but are contrary to it. During the last century many philosophers have vainly tried to found a rational morality, while ignoring the underlying metaphysical question. These philosophers may be put in three groups,—Kantians, the spiritualistic school, who maintain the morality of excellence, of beauty, of perfection or dignity of human nature, and the Utilitarians. Each of these schools is criticised in turn with the object of showing that their conclusions must be wrong, because they have followed a vicious method. There are three possible positions open to the moralist, the choice of which must determine his method. Either reason must judge that man has a destiny exterior to his life, a rôle to play, and that this rôle has been given him by a creator of infinite power and goodness. In this case rational morality must be a morality of duty and purely deductive. Or, reason must judge that this way of understanding the situation of man in the world is inadmissible ; in which case rational morality must be a morality of wisdom analogous to that of the ancient moralists. Or, finally, reason must recognize that it is equally powerless to

establish the rational or the irrational character of this supposition, and hence must confess that it is incapable of discovering a solution of the moral problem. From what has been said, it is evident that the author decides in favor of the second alternative. His watchword is: Back to the ancient moralists. They alone have properly understood the nature of the ethical problem and have followed the correct method. The conception of a divine destiny is a religious idea foisted upon the world by Christianity. The ancient moralists were free from this superstition and sought to define the essence of natural good. But naturalistic moralists who are thus far agreed have followed different methods. Some have inquired into the nature of the desirable life without analyzing actual desires. Others have studied actual desires in order to determine the good or desirable. The author decides in favor of the second method. This being established, the remainder of the discussion is readily formulated in the three following questions: (1) What is the end that the fundamental tendencies of human nature spontaneously tend to realize? (2) What are the means by which man has the chance of attaining this end, or, at least, of progressively approaching it? (3) What must we think of the moral sentiment and the value of its suggestions in relation to means and end as previously defined? Each of the three succeeding chapters is devoted to the discussion of one of these questions.

Chapter II, *Le Bonheur*, is the answer to the first question. The author here criticises four different types of eudæmonism. The hedonistic eudæmonists define happiness in terms of pleasure and pain. Negative eudæmonists make happiness consist in freedom from pain. Aristotelian eudæmonists hold that happiness consists in activity for its own sake and not for the sake of the result of action. Pessimistic eudæmonists regard human desires as without rational end and hold that happiness is impossible. M. Cresson holds that they are all of them wrong and that happiness consists in contentment with one's lot.

Chapter III, *On Wisdom*, lays down rules for the attainment of happiness as thus defined. Perfect happiness would imply the exclusion of all desire while retaining self-consciousness. As this is impossible, perfect happiness is unattainable. But an approach to happiness relatively great is possible by the observance of these rules: Have few desires; never desire anything more than moderately; desire only what you will be pretty certain to get. Then follow some equally obvious rules for delivering oneself from the pressure of desire,—think a thing impossible and the desire for it weakens, etc. The Stoics are right in emphasizing the internal conditions of happiness; they are

wrong in saying that happiness is wholly independent of material conditions. The Epicureans are right in distinguishing between necessary and non-necessary desires. Some external goods are necessary to the preservation of life and the attainment of happiness. In order to attain these external goods, man must live sociably with his fellows, must in short be just and benevolent. The existence or non-existence of society cannot affect the internal conditions of happiness, but it does affect the material conditions. Hence, instead of *homo homini lupus*, the wise man will say *homini nihil utilius homine*; his true interest will dictate that he act as though he experienced sentiments of justice and benevolence even if he does not feel them. Reason can only counsel the wise man to understand his own nature and the nature of his environment, and to act on his knowledge of the conditions of individual happiness so as to attain it as far as possible. It cannot command him to do anything, can impose no duty.

How comes it, then, that the greater part of mankind feel a duty, and that this duty appears contrary to the tendencies of human nature?

This question is answered in Chapter IV, On the Moral Consciousness. Reason advises, in the name of prudence, many of the acts that conscience dictates without a reason. The coincidence is accounted for by the familiar evolutionary account of the origin of conscience as due to the combined action of education and heredity. Natural selection has eliminated the a-social. The socially-disposed have survived and handed on the disposition to live sociably to their descendants. Education has fostered this predisposition until men have come to regard it, in the form of conscience, as something sacred, mystical, supernatural. The moral consciousness, however (the first appearance of which the author apparently attributes to 'chance variation'), is simply the voice of society, it is a 'thoroughly respectable social instinct.'

The last chapter, entitled Conclusion, is a superfluous and rather tedious, restatement of positions with which the reader has already become sufficiently familiar. To relieve this summary of entire colorlessness, it may be stated that M. Cresson's style is lucid, the arrangement of the book is good, and he states the issues between imperative and non-imperative morality with unusual frankness and decision. On the other hand, there is much needless repetition, a good deal of commonplace, and, in the endeavor to avoid a hazy eclecticism and state issues sharply, an exaggeration of sharp antagonisms. There is, for example, no hint that the evolutionary theory of the genesis of conscience may be perfectly compatible with theism, nor that the latter is

not inconsistent with a view which finds the moral end in man's own nature and not outside of self. Whether M. Cresson's reasoning would prove satisfying to any one who still preferred, if possible, to have a rational morality more inspiring than the counsels of prudence, we greatly doubt. At any rate, his notion of the Good, however little inspiring, would seem, in view of what he says about the function of science in showing the means to its attainment, to be as difficult of realization for the majority of mankind as a more inspiring ideal. The pig is content without philosophy; but the condition of human contentment seems to be a rather exhaustive and profound knowledge which only the sage can attain by keeping abreast of the results of contemporary science. In answer to the question, Who then can be saved? M. Cresson would have to reply, "The contented school-master,"—the man who has neither poverty nor riches, but intelligence and opportunity to study the internal and external conditions of happiness, and who is ready to accept the inevitable with resignation.

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*Geist und Körper, Seele und Leib.* Von LUDWIG BUSSE. Verlag der Dürr'schen Buchhandlung, Leipzig, 1903. — pp. x, 488.

This volume offers us a thorough-going discussion of the relation of body and mind, so far at least as that can be restricted to the 'pros' and 'cons' of the controversy between the adherents of interaction and those of the doctrine of psycho-physical parallelism.

Busse will not admit that more than two of the four possible meta-physical hypotheses of the nature of body and mind are consistent with either parallelism or interaction; these are dualism and a parallelistic monism. Nevertheless he devotes fifty pages to a refutation of materialism. It is interesting, from the standpoint of the later chapters, to note that the basis of its rejection, aside from Lotze's argument from the unity of consciousness, is the felt dissimilarity between the mental and the physical. At the same time, he hastens to add that they are nearly enough alike for interaction between them to be possible.

In the first chapter of the second part, the different forms of parallelism are discussed, and all are rejected as invalid that are in any way provisional or limited. If there is to be any theory of the relation of body and mind, it must be complete and universal. The only true forms that remain are the three classed as qualitatively distinct, dualism and the idealistic and realistic monism. But so far as regards the



essence of the problem, these forms are so closely related that they may be discussed together.

The second chapter of this part is devoted to a statement of the advantages of parallelism. These may be summed up in the statement that the theory renders it possible for the results of science to be harmonized with an idealistic theory. By its means the scientist can continue to hold to his fundamental doctrines without bringing them into conflict with the popular ideals and cherished beliefs concerning mental processes.

The list of disadvantages in the following chapter is much more formidable in its length. As a beginning, the analogies that have prevailed in the different forms of monism are all shown to be inconsistent with the facts. They are at best mere pictures not concepts, and when examined are found not to make clearer the relation.

The essential problem of parallelism is discussed under three heads. (1) Does the conception of causality harmonize better with interaction or with parallelism? (2) Are the consequences of parallelism such as will permit it to be held? (3) Does the doctrine of conservation of energy admit of interaction, or does it dictate parallelism? The author's answer to the first question is that interaction is the simpler and more natural explanation; that it, rather than the other, corresponds to the natural belief of the popular mind. Furthermore, causality in itself is not bound up with the closed system of natural law, and cannot be made to take the form of equivalence of energy between cause and effect or to agree with the assumption that every physical effect must have a physical cause. There is nothing more inherently improbable or more difficult to explain in the action between a mental and a physical process than between two physical.

Busse finds great difficulty, also, with the demand which the parallelistic theory makes that there shall be two closed series of causes and effects. At first sight it seems hard to realize the demand for the independent mental series, — to explain a pin-prick in purely mental terms, — but this is finally admitted to be conceivable. A closed physical series, on the contrary, is impossible. There are three consequences of the resulting automatism that Busse is not willing to accept. In the first place, it is not possible to find a parallel for the relating and logical processes in the physiological activities. There is no possibility of any thing as the parallel of distinct cells, except an atomistic mind. The crude associationism of the English school is the only possible psychology for a parallelist. This means that the unity of consciousness cannot be explained, and, what Busse lays even more

stress upon, it robs the logical categories of all effective action. We arrive at any conclusion, not through the law of identity or of necessity or sufficient cause, but because of the frequency of connection of the elements that compose the thinking process. Logic has no real existence. The second objection is that there is no room, on the parallelistic hypothesis, for the vital force of the neo-vitalists, which must be a non-physical force acting upon the physical elements. And, thirdly, he insists at great length that the physiological processes are not sufficiently delicate to account for the results of human action. It is inconceivable that you may account for the success of a historical character on the ground of the adjustment of neural paths, or that you can account for the difference of the effect upon a parent of a change in two letters in a telegram by assuming that it is all a question of nervous reaction to stimulation.

This whole section of the discussion seems to rest upon the assumption that our present knowledge of cerebral physiology, and particularly, the author's present knowledge of physiology, is final, and that there can be no advance in knowledge in that field. The author insists that the very most schematic and elementary nervous processes alone shall be considered, and, after he has failed to explain, or parallel, mental facts with them he exclaims triumphantly that all explanation is impossible.

The great weight which he lays upon neo-vitalism must be amusing to the chance biological reader. Certainly that cult has no such general following as the author implies, and, moreover, many neo-vitalists are at pains to insist that what distinguishes them from the older vitalists is that they do not believe in a vital principle, but only in a special form of action of chemical and physical forces which is peculiar to the living organism. They would be content to assume that the law that every physical action must have a physical cause held even in the biological realm.

Again, few psychologists would be willing to admit that parallelism necessarily implied the acceptance of an associationistic atomism, and Busse's argument for that relation is based upon his ignorance of modern physiology. The plea which he raises against the reduction of logical processes to associations between ideas would hold against any psychological explanation whatsoever. If logic is to lose its independence, when it is shown that the processes involved in reasoning are in some way capable of description in psychological terms, the course of logic is well-nigh run.

The final objection to parallelism is that the doctrine is incom-

patible with the validity of human effort and the immortality of the soul. This part of the argument is a sheer *ad hominem*, for he admits at the end of the section that the interaction theory offers just as many difficulties to the carrying through of these conceptions.

Under the advantages of interaction, we are given merely a *résumé* of the disadvantages of parallelism. The disadvantages of the former theory are that it cannot be made to harmonize with the scientific doctrines of the closed series of physical causes and with the law of conservation of energy. The former doctrine is dismissed with the statement that it is not an *a priori* principle but an empirical law which must fall with the discovery of any fact in contradiction to it, and that it has not been demonstrated where the parallelist needs it most, — in the biological processes. The difficulties with the doctrine of the conservation of energy receive more extended treatment. In the first place, a distinction is drawn between the doctrine of equivalence and the doctrine of conservation. The former is said to be compatible with interaction, but all the ingenious attempts to harmonize interaction with the doctrine that the total of energy in the physical universe is a constant are shown to be inadequate. The various theories may be divided into two groups. One assumes that the mental processes are merely different forms of energy into which physical energy is transformed, but this is practically materialism. The second group attempts to find analogies which would indicate that it is possible to accomplish results without doing work, but these are all shown to overlook certain factors, or to be inadequate. Nothing remains but to choose between interaction and the physical doctrine. Busse chooses interaction on the assumption that the other is but an empirical formula. If there is interaction between body and mind, then *ipso facto* the doctrine of conservation falls. To argue for parallelism from this doctrine is *petitio principii*. It is time, moreover, that philosophy were dictating laws to science, not blindly accepting scientific principles.

A short conclusion affirms Busse's faith in a spiritualistic-idealistic view of the universe.

When one attempts to bring together the net result of the arguments of the book, it seems difficult to see what has been gained in the 500-page discussion aside from a statement of personal opinion. If one is a vitalist, or believes that no further progress in physiology is possible, and is willing to accept the author's statement of the present-day position of neurological knowledge; if one has a belief in the unity of mind, in the absolute exclusiveness of the old logical laws,

and in the necessity of the common-sense theory of the nature and supremacy of all things mental, — then one cannot be a parallelist. If, on the contrary, one is inclined to accept the scientific interpretation of the world and desires an explanation of the facts of mind as well as of the physical world, one will see no force in the arguments that Busse advances. Even if one admits the value of the personal opinion, one is surprised at the accurate gradations of which this opinion is capable. The author's main contention against materialism is that mind and matter are so totally different in kind, but later on he believes that they are sufficiently alike to interact. No criterion of similarity or difference is given in either case.

One other flaw seems to permeate his argument in connection with conservation of energy. We must admit, I think, both that the doctrine is an empirical formulation, and that the difficulty in picturing to ourselves the nature of the causal relation between a mental event and a physical event is not appreciably greater than between two physical events; but nevertheless it does not seem necessary to give up a widely useful scientific hypothesis unless we can find definite facts that are in conflict with it. Certainly there is no specific instance of interaction that can be traced through accurately in the way that many physical events can be.

Busse, again, I think, does not state accurately the point of view of most parallelists, — most psychological parallelists, at least. For what the latter are concerned to deny is not that there exists a relation between body and mind, but that one can adequately conceive that relation under the ordinary forms of causality. Most men would be very free to admit that there is some connection between mental and physical states, but insist that at the present stage of our knowledge we can find no analogue for it in any physical relation. Their view stands to interaction in very much the same relation as Hume's doctrine of cause to the popular idea of cause. It will only pass over into interactionism, if at some future time some law of equivalence between mind and body can be empirically established; and that seems to-day a remote contingency.

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*The Psychological Elements of Religious Faith.* Lectures by CHARLES CARROLL EVERETT. Edited by EDWARD HALE. New York, The Macmillan Company, 1902. — pp. xiii, 215.

I remember very distinctly hearing, several years ago, a graduate of the Harvard Divinity School express an earnest wish that Dr. Ever-

ett might some day publish his lectures on theology. Those who moved in the immediate circle of his influence must have heard frequent expressions of the same desire. It was not, however, destined to be fulfilled. Dr. Everett did not publish these lectures during his lifetime, nor did he leave any manuscript of them. Indeed, it is doubtful, we are told, if he ever wrote them out in full. But a partial fulfilment of the general desire of Dr. Everett's students and friends was still possible through the use of the lecture-notes taken by some of his pupils. The difficulties and limitations incident to such an undertaking are obvious to every one who has scanned the notebooks of his own students, even though the survey may have been confined to those of the most intelligent and painstaking. It speaks well for the faithfulness and skill of the editor that the result of the compilation is a book as coherent and readable as is *The Psychological Elements of Religious Faith*. Naturally there are *lacunæ* which affect to a certain extent both the style and the thought. The reader is frequently in the attitude of a questioner asking for a fuller statement of some point or conjecturing what position Dr. Everett took on certain fundamental problems of philosophy and religion. Happily the answer to some of these queries may be found in other publications of the author, notably in his *Science of Thought* and in various essays and articles.

The present volume is not a psychological study of religion in the sense in which one has learned in recent years to speak of the psychology of religion. It does not offer any detailed account of the experiences of religious people or of the laws which govern the development of the religious life from childhood to maturity. It does not, therefore, enter the field in which Professors James, Starbuck, Coe, and others have made interesting excursions. It is rather a study of the concept of religion in its most universal aspects, and has for its aim the unfolding of the essential nature of religion and the construction of a tenable definition of its form and content. In fact, the definition of religion may be said to constitute the guiding thread of the entire discussion. Starting with an "extensive" definition which includes all religions, the lowest as well as the highest, our author advances step by step to a "typical" definition which represents only the higher forms, and concludes with a consideration of the content of a religion that shall satisfy our highest ideals. Although not in the field of empirical psychology, the work is not without an empirical element. This appears in the effort, everywhere manifest, to keep to the facts of religious experience by reference to the history of religion.

Dr. Everett preferred rather to have, in his own words, "a very imperfect science of religion than a very perfect science of something which is not religion."

The material presented in this work represents essentially a course which was introductory to the discussion of the central problems of theology. Naturally, therefore, it deals with the question of method in theological study. To this topic the first chapter is devoted. Four different methods of procedure are recognized. They are (1) the dogmatic, (2) the critical, (3) the psychological, and (4) the speculative. The characteristic feature of the dogmatic method of the past has been the ready assumption of facts and the appeal to authority, as to the bible or to the church, as the basis of belief. The critical method aims to expose the defects and failures of dogmatic theology. While doing good service in this field, it tends, when carried to an extreme, towards purely negative results. Strauss is cited as an example of this tendency. The third method, the psychological, works from the facts of religious experience to the conception of God. Thus it inverts the order of the dogmatic method, which attempts to determine what religious experience should be from its conception of God. The psychological method may be used negatively as well as positively. Feuerbach's procedure was of this negative kind, for he reduced religion to its psychological elements, displaying their subjective origin and leaving no objective standard. The speculative method is represented as occupying a place between the dogmatic and the psychological method. It accepts the results of the psychological method and then constructs "within these results a world for itself." "It fills out psychological results into a system. Whereas the psychological method is satisfied with the simpler relations, the speculative strives to bring out the inner relation of things, and aims to show the perfection of the whole" (p. 5). The nature of the speculative method, in contrast with the dogmatic, is well expressed in the following characterization. "Here results are reached by a process of speculative construction which grows like a plant. The plant takes its beginning from a seed, and then, as it grows, draws from earth and air and water, translating each into itself and at every stage of its growth assimilating new material" (p. 6). Dr. Everett's own method may perhaps be fairly described, at least on its positive side, as a combination of the psychological and speculative methods which he has here discussed. Even in the introductory material of the present volume, he constantly tends to pass from psychological analysis and interpretation to speculative construction.

But did he believe that one can erect a perfectly secure structure? Where did he fix the limits of the human reason? Was he a rationalist or a mystic? These are questions to which a general answer may be given in conclusion from the results of the discussion.

What is religion? In what part of man's nature is its root to be sought? Does it belong primarily to intellect, feeling, or will? The answer gives the primacy to feeling. As a tentative definition, obviously very abstract and imperfect but "inclusive," we may say that "religion is feeling." While it is true that all three elements of consciousness are present, feeling is the "essential" element. In defending the emphasis thus placed upon feeling, the author considers the well-known criticisms which Hegel urged against the primacy of feeling. Particularly pertinent is the brief answer to the third count in Hegel's indictment of feeling, to the effect that it is common to the brute with man, and therefore belongs to the lower part of man's nature. In opposition to this view, it is said that "the brute has the beginnings of intellect as really as the beginnings of feeling," and that perhaps "the brute shares thought with us as fully as feeling." For my own part, I believe there is no reason to suppose that the differences in feeling between man and the brute are not as great as the differences in the thought processes, or that, on the whole, capacity for feeling, as regards its range, quality and intensity, does not keep pace with the development of the other elements of the mental life. In fine, man may be said to share feeling with the brute in precisely the same sense in which he may be said to share intellect with him.

The same primacy which Dr. Everett gave to feeling in religion he seems also to have given to it in all other spheres of human life. He says: "It is the more important to recognize the primacy of feeling in religion, if only because it has the same primacy in life generally. Intellect represents the environment, feeling represents the man. Intellect brings to man his material; feeling is his response to this material. Intellect is analytic; feeling recognizes the unity of the object and is constructive. Intellect tries to explain and justify, yet never reaches that in which feeling rejoices" (p. 20). He is careful to warn us against confusing this feeling with "superficial" feeling or with "transient emotion." It was for him rather a profound and permanent attitude of the self, something underlying and integrating all experience. But one must, I think, question the use of the term "feeling" as here employed for the total reaction of the individual in any environment. It seems a popular rather than a correct psychological use of the word. It is, of course, true that

in many situations and towards many objects, our attitude is not reducible to clearly defined intellectual judgments. We cannot always tell satisfactorily why we love our friend or why a particular work of art affects us so powerfully. We "feel" in both cases more than we can adequately express. And yet, psychologically, our mental state is not one of pure feeling. Closer analysis reveals its composite character. Intellect and will are both playing their parts. It is striking evidence of the present lack of agreement in psychological theory and terminology that precisely what Dr. Everett and others call "feeling" the voluntarists call "will." To the voluntarist, "will" similarly "represents the man."

The question of the criterion of value of religious feelings is an important problem, and one concerning which the psychology of religion has not yet given a univocal or satisfactory answer. No direct measure of value, our author holds, can be applied from without. "Largeness" and "intensity" are the two standards suggested. Largeness is used as synonymous with extension. "Leaving out the element of intensity for the time being, we may say that the feelings which refer to the largest portion of the environment are the most worthy" (p. 31). According to this criterion, the feeling which has "the larger sweep" has the greater value. This criterion is supplemented by that of "intensity" or "depth." He would reject the view that the ultimate criterion of feeling is found in action, for he maintains that in the last analysis "any act has worth according to the feeling manifested through it." This is consistent with his rejection of all external tests of feeling. He acknowledges that in the rough estimates of ordinary life we regard the act as "the measure of the feeling." But it is a "very imperfect measure." "All expressions of profound feeling are as rags in comparison with that garment without seam, the feeling itself" (p. 38). The ethical implications of this position are obvious. Utilitarianism in all its forms is inevitably rejected.

The second step in the definition of religion is presented in the statement that religion is "the feeling toward the supernatural." The incompleteness of this second definition is frankly recognized. It is still "inclusive," not "typical," and is applied to various forms of historical religion to show that it holds good of them all. But what is meant by the "supernatural"? It can be defined only in relation to the term "natural." "What we here mean by nature is a composite whole, and the supernatural is that which stands in antithesis to this composite whole" (p. 89). "But, secondly, the term



'composite whole,' in which we have unity of combination, may also involve a non-composite whole not made up of elements brought together; a whole, that is, forming a unity in and through which all these elements of the composite whole have their being, and which manifests itself through them all. . . . The one perfect illustration is the human mind. From one point of view our consciousness would seem to be made up of various thoughts and feelings. In another aspect all these thoughts and feelings, these various elements of consciousness, have no meaning without the unity of consciousness in and through which they exist, and which in turn manifests itself through them" (p. 90). The distinction is essentially that of Spinoza between *natura naturata* and *natura naturans*. In itself, however, supernatural is simply a negative term. It does not involve necessarily "a conception of spiritual beings" or "even superiority." Buddhism, which is profoundly atheistic, satisfies the definition thus far given. It, too, is a "feeling toward the supernatural," for there is manifest in it a constant reference to that which is beyond the natural, the earthly life.

"The feeling toward the supernatural" may be regarded as the universal "form" of the religious consciousness. The question now arises as to its "content." Is it possible to classify the various thoughts and experiences which fill out the religious life? There is a classification which comes to us from the past, according to which the content of religion is found in the "three ideas of the reason, — truth, goodness, and beauty." Historically, of course, the religions of the world have very imperfectly united these ideas. In certain religions only one has been clearly recognized. "In the religion of the Upanishads the worshipper recognizes only the first idea. In the Mazdean religion goodness is recognized, but not unity. The Greek thought emphasizes beauty. In each case worship is incomplete" (p. 138). The idea of truth, it is to be observed, is made synonymous with that of unity. For to gain the truth with regard to any object, we bring it into relation with other objects. To understand it fully, to know the whole truth about it, would be to see it in relation to all things. "If we knew the absolute truth, we should see the universe as a great organic whole, the manifestation of a principle in and through which all things exist" (p. 151).

One naturally seeks for a fuller statement of the nature of these "ideas of the reason." Are they the result of experience, or do they "underlie experience and make it possible"? The latter view is defended and they are declared to be "innate," *a priori*. Further, they

are not three distinct principles, but reduce upon analysis to a single principle, that of unity. The idea of unity is "innate" in the sense that it is "spontaneous" and "instinctive." It appears even in the animal organism, which "acts as it would if it knew something which it does not know." So, too, the savage does not explicitly comprehend this unity, but he assumes it. He seeks "to annex one thing after another to his intellectual world, and thus begins a progress into the infinite." "He thinks exactly as he would if he could see all and know that there was absolute unity; he does not know, but he acts as though he knew" (p. 155). The inductions of science depend upon "an unconscious assumption of that unity." In truth, the most unqualified recognition of the unity of the world-order preceded the beginnings of science. In the Upanishads the unity is affirmed independently of external supports, and the same is true of Eleaticism. It is the glory of science, however, to have brought this unity to clear consciousness and to have secured for it general recognition. Causation is interpreted by the author as "a form under which we recognize the unity of the world." "What we mean by causation is that there is some inner relation between what we call cause and what we call effect; that the present is the product of the past because of an inner bond; that the world has unity so that nothing in it exists by itself and for itself" (p. 163).

The content of the supernatural, which, as we have seen, is the universal form of religion, is further expressed and defined by the concept of moral goodness. For morality represents the supernatural. "In the same way in which the savage feels that his little life is broken up by the power of the supernatural, so the moral law strikes into the relations of our life with an interference, which, when really felt, admits no compromise" (p. 170). Rejecting the various attempts to find a natural basis for morality, the author rested it upon the social relations. But the social order in which individuals are bound together by a common moral law, represents one aspect of the principle of unity. "The moral law finds its basis in the principle of unity. It is thus supernatural because the principle of unity is supernatural. It breaks in upon the natural world, the 'noumenon,' to use Kant's phrase, 'breaking in upon the world of phenomena.'" (p. 187). Morality, however, does not arise historically from religion. Its development is largely independent. "As in the human embryo the various growths are from different centers, yet as development continues these growths unite, so religion and morality appear to have their rise from different centers and to unite only at

length in their highest aspect to form one inseparable whole. When the God who is the object of worship comes to be known as the Absolute Goodness, then religion adopts as its own the higher ethics and gives it its sanction" (p. 188).

There remains the third idea of the reason, that of beauty. This is also supernatural in the sense explained, and as such enters into religion. "Just as morality is the power of unity binding individual souls into a whole in the social order, so beauty is the manifestation of the principle by which our lives and the surrounding world are taken up into a common relationship" (p. 199). "The three ideas of the reason are simply different manifestations of one and the same principle. The first affirms that which is, the second that which ought to be, while in the third we find that which is as it ought to be, the fulfilled perfection" (p. 200). This is an interesting emphasis upon the æsthetic principle. Dr. Everett seems to have regarded it as the highest expression of the world unity. In beauty we find a joy and rest not possible in the search for truth or the struggle for goodness. Here we possess the unity without conflict.

The final definition reached is as follows: "Religion is a feeling toward a supernatural presence manifesting itself in truth, goodness, and beauty." It is suggested that in a further course of study the word "spiritual" may be substituted for "supernatural." In this definition, form and content are united. Historically, they often appear separate. Primitive religions possess the form with very little content. "On the other hand, we may find devotion to the content without recognition of the form. A man may follow the leading of truth and goodness and beauty without recognition of the supernatural, of God, just as he may recognize God, and give to truth and goodness and beauty no recognition" (p. 210). The history of religion is interpreted as "the attempt to fill the form with the content."

It seems hardly fair to subject a posthumous work, prepared as the present volume has been, to precisely the same criticism that under other circumstances would have been appropriate. Without further critical comment, I will attempt in conclusion a brief answer to the questions already raised with regard to the author's philosophical and religious position.

In the book which we are considering, the "ideas of the reason" are spoken of as "innate." The term is doubtless an unfortunate one, for it suggests certain historical forms of so-called rationalism with which Dr. Everett seems to have had little sympathy. He certainly had a far stronger empirical tendency than one associates with

a doctrine of "innate ideas." It is only when the word is translated into terms of spontaneity and instinct that it carries its appropriate meaning. Instincts we do have, he held, which are fundamental. They are the basis upon which all life rests. Instincts of action are the sure guide throughout the teeming world of animal life, of which man forms a part. And just as we have instincts of action, so we have what he calls "instincts of belief." These instincts of belief are "reasonable," although they are not reasoned, are not the result of conscious and articulate logical processes. What he means by them is expressed in one place as "a feeling of good faith in things." Such instinctive confidence in the coherency and unity of our world cannot be transcended or annulled. Even scepticism is a sturdy avowal of it; for scepticism proceeds upon the assumption that we can trust our impulse to know, can take ourselves and the world seriously, in good faith. All particular content, however, built upon our instinctive demand for unity, is won through experience. The reasoning process is required to develop concepts and to purge them progressively from error. This negative function of reason in freeing us from the illusive and false, he seems to have regarded as important, and was willing to let it do its perfect work. But can the reason satisfactorily complete its structure? In religion, for example, can all the facts of nature and of history be interpreted as the expression of goodness and beauty? Can evil be reconciled with the harmonious content which we demand in our ideal of the supernatural, of God? I think his view would frankly admit the impossibility of a thoroughly satisfactory solution of the problem, and would affirm that, from the contradictions and antinomies in which the reason becomes involved, we are thrown back upon the primal instinctive feeling of unity and perfection. While he had evidently learned much from Hegel, he did not fully share Hegel's confidence in the power of dialectical criticism. Philosophical and religious systems are not, then, in the stricter sense, matters of knowledge, but of belief. With "reasonable" faith we must be content. It also becomes clear to what extent Dr. Everett might justly be termed a mystic. He was a mystic in so far as he recognized that the final unity cannot be demonstrated or made matter of universal agreement; in so far, in fine, as he believed that there is always more in experience than the intellect can render a clear account of. For the mystic is one who rejoices in a sense of that divine unity which he feels powerless to prove. Dr. Everett's mysticism, however, was clearly not of that type which he himself in one passage calls "abnormal." He did not "prefer darkness rather than

light," nor accept the immediate feeling of the individual as an utterance of the Absolute Truth.

I have given to this little book more space than its mere size might seem to demand. But I have done so because the book is in a real sense representative. For it represents, however imperfectly, the work of a teacher who for a generation was a potent influence at our oldest American university, and it also represents a movement, a tendency, in theological training. Here was carried on an earnest study of religion in no cloistered seminary, but in the quickening atmosphere of university life and in the most intimate relations with free philosophical investigation. It stands for a method and spirit of study which are now finding wider recognition, and which are destined, one may believe, to work important changes in theological education.

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## SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Int. J. E.* = *International Journal of Ethics*; *Rev. Ph.* = *Revue Philosophique*; *R. I. d. Fil.* = *Rivista Italiana di Filosofia*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Ph.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Ps. u. Phys. d. Sinn.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*; *Phil. Jahr.* = *Philosophisches Jahrbuch*; *Rev. de Mét.* = *Revue de Métaphysique et de Morale*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*.—Other titles are self-explanatory.]

### LOGIC AND METAPHYSICS.

*La dialectique des antinomies kantienues.* J. EVELLIN. *Rev. de Mét.*, XI, 4, pp. 455-494.

In the third and fourth antinomies, Kant admits the possibility of reconciliation, because reason and morals are in conflict. But it is either impossible here, or is possible in the case of the other two. The same principle rules all the antinomies. The theses all depend on the method of pure reason, on the fact that "reason cannot without self-contradiction assume as complete, a synthesis which it has declared not capable of completion." The antitheses depend upon the craving to perceptualize the object of which we think. All the theses conclude in affirming the finite, while the antitheses negate it. There is really but one antinomy, recurring everywhere because the intellect is both imagination and reason, which may be stated thus: "An unconditioned quantum corresponding to an absolute totality is conceivable equally as finite and non-finite," according to our point of view. The duality is accidental and there is no real conflict in the reason itself. But Kant emphasized the duality of noumenon and phenomenon in order to save freedom. In choosing this distinction as his means, he was correct; but he did not see that it could save freedom only by rehabilitating pure reason, and that the form he gave it was compromising to his aim. With the noumenon are associated all the ideas of teleology and free moral action; with the phenomenon, all the ideas of order on which science is based. If Kant thought that the ideas of an absolute beginning and an unconditioned are illusory, then is his affirmation of liberty merely a transcendental appearance. But even if we consider his proofs for liberty apart from the rest of his doctrine, his distinction of noumenon and phenomenon in his own sense will prove an embarrassment. Space and time are for Kant essentially subjective; the real is outside of space and time. A great objection to this view is that thought cannot contain *à priori* forms which are the absolute negation of its nature. Mind is a rigorous unity; how can it contain the multiplicity of extent and duration?

More than this, for Kant there is no objective ground in the noumenon for time and space. If there were, time and space would necessarily be concepts known *à posteriori*, derived from some more general form. The noumenon is then not of this world, and utterly cut off from the phenomenon. But to solve the problem of liberty, phenomenon and noumenon must be distinct enough to give rise to two different points of view, yet close enough to be reconciled by the explanation we seek. In a tentative outline of such a reconciliation, we might assume that the notions of space and time, or, more simply, those of extent and duration, are analyzable into their elements. Duration would then be a composite of change, or successive multiplicity, which is objective, and the unity of reason. To have duration is to be in contact with mutability without being carried on its current; but this is what the mind does, which is present in entirety to each one of its acts and states. If duration be considered on the side of change, the noumenon is exterior to it; if on the side of unity, the noumenon is within it as the unchanging element. The identity of consciousness is a noumenon always wholly present to the events of life, not in isolation from phenomena. We make unity and change equally parts of duration; but Kant opposed unity not only to change, but to duration as a whole, and was therefore logically forced to make the separation between noumenon and phenomenon complete. We have shown the possible reconciliation, though it was by recognizing that there is an objective factor, change, in duration; but this is the exact negation of the Transcendental Aesthetic, and therefore of the whole *Critique*. Kant does not reconcile his two worlds, he merely places them in juxtaposition; his man is in extreme dualism, the empirical man subject to the law of necessity, the rational subject to that of reason. Human liberty is with him practically synonymous with necessity. The truth is that the phenomenon is not merely the negative of the noumenon, it is also its expression. The distinction between them should be made rather by subordination than by absolute separation. Thus we should gain the right to a simultaneous affirmation of the two apparently contradictory notions, at the same time showing that always the phenomenal antithesis is explained by the noumenal thesis. The infinite and continuous are in themselves inexplicable; the finite and discontinuous are not only intelligible but also explain their opposites, which as negations gain all their determination from them. The first are phenomenal, the second real. Like them, liberty is truth, necessity is appearance, and we may hope to solve the problem stated by following this clue in our succeeding study.

EDMUND H. HOLLANDS.

*Folgerungen aus Kants Auffassung der Zeit in der Kritik der reinen Vernunft.* O. LEO. V. f. w. Ph., XXVII, 2, 189-207.

We must distinguish in Kant two conceptions of time; first, the temporal determination of all possible presentations in consciousness; and, secondly, time as the form of functioning of that activity which brings

into being the presentations and so perception itself. It is in the former sense that "time is only the form of the inner sense." But, in the deduction of the categories, transcendental imagination itself, though attributed to an ego unconditioned by time as the form of inner sense, is yet characterized as an activity; so that temporal lapse cannot be excluded from it. In the activity of understanding, sense and thinking are not to be separated; and Kant in the *Analytic* maintains this separation only for expository reasons. Reason, too, is an activity, in which, indeed, sense does not participate, but which is unambiguously characterized as a temporal lapse; so that time is presupposed independently of the inner sense. Kant's statement, that pure reason is not subject to the form of time, is reconcilable with the necessity of temporal lapse in the activity of the reason, if we understand by the temporal lapse, not time as the form of inner sense, not duration and succession, but transcendental time, as, in the transcendental ego, it lies at the basis of the inner sense as the condition of its possibility. The *Critique* teaches the empirical reality of time, but denies its transcendental reality. But to time as the form of all spontaneous activity we cannot deny transcendental reality also. The empirical reality of time is possible only on the basis of transcendental time as the condition of all reality. Sensibility, understanding, and reason are phenomena, to which as the real corresponds the *energy* of sense-activity and thought. Kant calls this the *Gemüt*. The transcendental condition of all being and activity, free from all temporal determination (duration or succession),—energy acting in ceaseless flow without beginning or end,—this, too, involves time as transcendental reality. Time is thus real not as existing in itself, but as that logical determination under which the transcendental activity functions in our consciousness. If now the transcendental reality of time is not to remain exclusively logical, it must be given in conscious being and activity independent of thinking and inner sense; we must be conscious of it as of a continuous ribbon that unites all the items of conscious life. Temporal continuity is given us *a priori*, the certainty of flowing time independent of the particular content of sensation,—time that closes all the gaps of conscious being (as the empty time of sleep). Time has an independent, homogeneous continuity, not due to inner sense. Our thinking infinitely transcends the temporal limits of empirical time. The time to which we ascribe transcendental reality is the condition of all perception, and therefore cannot be given or known through perception.

THEODORE DE LAGUNA.

*The Order of the Hegelian Categories in the Hegelian Argument.* M. W. CALKINS. *Mind*, 47, pp. 317–340.

Hegel's immediate followers regarded the order of the categories as inevitable. Modern commentators usually hold that the order depends wholly on extraneous grounds. The truth probably lies between these two extremes. Much repetition passes for progress; and identical categories,



under different names, appear not only in close succession but at essentially different stages of the dialectic. Yet result and method are alike of permanent value; and the essential argument must be retraced by all who are to reach the standpoint of Absolute Idealism. This paper proposes a rearrangement of the *Logic*, which shall disentangle the several lines of argument. The following outline is offered: Introduction. Metaphysics is possible, for Ultimate Reality is neither undetermined (Bk. I, Identity and Difference) nor unknowable (Bk. II, Essence, Appearance, etc.). Ultimate reality is Absolute One, being neither a single reality among others, — for such reality is same and other (Bk. I, Determined Being; Bk. II, Identity and Difference), and like and unlike (Bk. II, Likeness and Unlikeness; Bk. III, Notion and Judgment), and dependent on others (Bk. II, Causality), — nor a composite of ultimate parts (Bk. I, Finitude, Infinity, and Being-for-Self; Bk. II, Action and Reaction; Bk. III, Mechanism). Ultimate reality is Absolute Self, and not mere life (Bk. III, Life) or finite consciousness (Bk. III, Cognition). The introductory argument is directed against Eleaticism of all times, on the one hand, and against Kant in particular, on the other. The argument for the unity of reality, occupying much the greater part of the *Logic*, has two parts: First, that Ultimate Reality is no single isolated reality; and second, that it is not a sum of isolated realities. On the first point, the argument from "sameness" or "likeness" is given far greater prominence than that based on "interdependence," doubtless because the latter is due to Kant and was common property in Hegel's time. On the second point, Hegel shows that a bare, unrelated plurality is impossible; but he never seriously considers the theory of the Absolute as a system of related individuals. However, he unequivocally rejects it, and the omission can readily be supplied on his own principles. The argument that ultimate reality is a self is also not so rigorously treated as that it is Absolute One; this because the general thesis of idealism was sufficiently accepted. As to the new ordering of the categories, determinate being is the real synthesis of being and naught, not becoming, which is rather a universal category, the common method of dialectical procedure. The section on quantity is omitted, because the whole of it is elsewhere duplicated, and its omission dispenses with the worse than useless section on measure. In general, the changes consist merely in the juxtaposition of groups of equivalent categories; and the justification for each change can be found in Hegel's own admission.

THEODORE DE LAGUNA.

*Mechanismus und Vitalismus in der modernen Biologie.* E. VON HARTMANN. Ar. f. sys. Ph., IX, 2, pp. 139-178; 3, pp. 331-377.

This article is a critical résumé of the leading mechanistic and vitalistic biological views from Müller onward. The earlier vitalists, von Humboldt, Bichât, and particularly Müller, hold to a life principle the advocacy of which is now impossible, — in M.'s definition "an unconsciously-working,

yet purposive activity" of an "imponderable matter," in its turn apparently a manifestation of a pantheistic world-soul. The "imponderable matter" aside, M. is closely akin to the neo-vitalists. To this life-force von Liebig would add the working of natural laws; Du Bois-Reymond, on the other hand, finds life's origin *solely* in such laws. Neither in organic nor inorganic nature act forces other than simple attractive and repellent 'central forces'; were there a life-principle, at best it could be only a complex of mechanical energies. Lotze, though repudiating vitalism, has tendencies thitherward, clearly visible through a supplementation, in the case of vital phenomena, to the "forces of the first and second order," of a divine interference. Fechner, Virchow, and Rindfleisch, however, as also Wundt and K. von Baer, are pronounced mechanists. For Fechner all physical, chemical, and organic laws, — it is true the latter are *in essentia* discriminated from the former, — are derivations from one law, universal and supreme; in so far, then, as a bodily organ, say the eye, may be likened to a mechanical contrivance, *e. g.*, the camera obscura, the organ acts mechanically. For Virchow, who, distancing his master, seeks the distinguishing feature between organic and inorganic, life is traceable to a proper, transferable form of motion possessed by atom-combinations of a peculiar structure; while life's appearance is vaguely placed in an "entrance of unusual conditions at a specified time in the earth's evolution." For Rindfleisch life retreats still farther to an unknown principle in intimate union with the protoplasm. The solutions of Wundt and von Baer are differently conceived. Life is a "goal-striving," — in the eyes of W., conscious, but only accidentally through over-shooting of its mark successful; in those of B., unconscious. Such standpoints may *seem* mechanistic. To materialistic scientists, intoxicated by Darwinism, they were not sufficiently iconoclastic; to vitalists they were pusillanimously compromising. Bunge and Hamann, on the one side, declare that the death-sentence of mechanism has been pronounced; activity is life's insoluble riddle, and each scientific advance merely widens the chasm between quick and dead. Conversely, Kassowitz disdains such mysteries; after himself exploding the various warmth-theories, Ludwig's osmosis view, the ferment, the electrical, and the equilibrium hypotheses, he presents his own explication, life as an alternate down-tearing and up-building of protoplasmic cells. Hertwig's position is neutral. Life is a product of both an incomprehensible vital force, and of the interplay of mechanical energies. With Haacke, Weismann, and Bütschli occurs a somewhat important innovation. In the last resort, *viz.*, so far as a metaphysics goes, the universe is teleological. But so far as the organism is concerned, purely mechanical, physical, and chemical laws account for it. All three of these men cling, more or less absolutely, to natural selection as a final answer of life's enigma; W., perhaps, in his "hypothesis of a mosaic of predispositions in the plasm" working selectively, begs the question. Eimer's and Ziegler's objections to vitalism are

more characteristic. Things must 'happen naturally' (materially) and explanations must not be 'transcendental' (transphysical). Darwinism, nevertheless, receives keen criticism at the hands of Wolff, and particularly of Driesch. Mechanical theories can never explain purposive adaptation ; although in general the causal, as well as the teleological, reference has significance, the latter is dominant. In the organism the vital principle uses physico-chemical energies, especially in reproduction and formative-ness. A mere machine could never renew itself, nor could it determine the specific arrangement of its parts. Reinke, however, aims to dispute this. The body, a chemical fabric, runs by mechanical contrivances. More explicitly, there inhere in it two kinds of forces, energetic and non-energetic (but not vitalistic), which in union may be expressed as "*Arbeitsdominante*." At first mere "*Summationsphänomene*," these appear later as immaterial, unconscious, psychic activities, governing not only parts of organisms, organisms themselves, and species, but ruling all as a semi-mystical "*Universaldominante*," assimilating all the lower "*Dominante*." F. Reinke, although on somewhat different premises, substantially agrees with his brother. Reinke thus seems an implicit vitalist ; so are von Helmholtz and Hertz. Purpose is so wonderful as to transcend the ken of human exposition (yet Helmholtz is a stanch Darwinist) and, even though in the organism "conservation of energy" is valid, its workings are inexplicable. But K. Schneider is one of the most recent and ablest, though mistaken, leaders of vitalism. Mechanism is an obsolescent error, lingering only through mental inertia ; it utterly fails to explain purposive adaptation, variations in plants removed to unfriendly climates, etc. On the other hand, there is no autonomous vital force, no Reinkean "*Arbeitsdominante*," no distinct life-stuff. The vital principle is a physical energy bound to physical atoms and differentiated from other physical forces only as these are from each other ; perhaps it is Ostwald's "nerve-energy." How it arises can be seen, not expounded ; the most to be said is that it is a transformation of other energies through the medium of molecular rearrangement in the plasm. Beside Schneider, many less-known authors, "children who dare not use right names" might be cited,—the chief being Albrecht, Preyer, and Jager. All in all, the vitalist, though as yet his cause be unproved, may look hopefully forward.

A. J. TIETJE.

*Brief Critique of 'Psychological Parallelism.'* G. T. LADD. Mind, 47, pp. 374-380.

The 'stream of consciousness' is no mere temporal sequence. Certain feelings of activity or passivity are inseparable from every state of consciousness. To these, chiefly or wholly, is due the appearance—or, as the writer believes, experienced fact—of dynamical connection in experience. The experienced phenomena suffer a diremption, which is both a condition and a product of the growth of the intellect,—the diremption

into phenomena assigned to things as their subject and those assigned to the self. This distinction is rather confirmed than confused by the fact that certain psychoses are for certain purposes assigned to the body, and for other purposes assigned to the self. The phenomena of which the ego is subject and those of the physical organism are experienced in such temporal connections and with such coloring from feeling and conation that they are inevitably conceived as standing to each other in actual dynamical relations. The consciousness of man is essentially 'ontological.' It is reality that he requires as the account of his experience,—two real beings, his body and his mind, dynamically related in the one experience. Thus mind and body exist in *actual, reciprocal, causal relations*. For it is in this connection that the very conception of causality arises. From the empirical point of view, the hypothesis of parallelism is either unintelligible, inadequate, or false. The 'parallelism' is not spatial; nor can it be merely temporal. The two 'parallel' time-series differ in important ways. The life of the mind is anything but a continuous 'stream'; and there are essential factors and activities of psychic life and development, in respect to which psychic and physical phenomena are decidedly *not* parallel in any legitimate sense. When the hypothesis of parallelism becomes metaphysical, it either distorts or contradicts the proper meaning of the categories employed. Psychophysical science, properly understood, does not essentially alter the popular conceptions of body and mind. What the science discovers is not 'parallelism,' but a complex network of relations. The problem of the relation of mind and body, like other ultimate scientific problems, appeals to philosophy for a tenable solution. Philosophy perceives with increasing clearness that the bond must be found in the being of the cosmos itself.

THEODORE DE LAGUNA.

*La finalité en biologie.* E. GOBLOT. Rev. Ph., XXVIII, 10, pp. 366-381.

The term finality, which is essential in biology, is not even legitimate elsewhere. The postulate of a final goal in cosmic evolution,—especially if this evolution be conceived of in anthropomorphic and anthropocentric terms,—is untenable. According to Renan's teleology, the first cause of the universe is divine consciousness, striving, through innumerable failures, to realize itself materially. Human consciousness, the cosmic end, is a good in itself, for whose production the infinite resources of the universe are drawn upon as means. But such a teleology is utterly foreign to science. Science demands determinism, rejecting alike occasionalism and preëstablished harmony, unless by the creator, involved in the latter be meant a mere mathematical or logical abstraction; such a conception, though extra-scientific, is not anti-scientific. Finality and freedom, which are really incompatible, Sully-Prudhomme makes inseparable. Finality and necessity he regards as alternatives, and so eliminates the former from the positive sciences, maintaining that it is impossible both in mechanical and in psy-

chological determinism. But instead of being thus banished from nature, finality is really conditioned by the very necessity of natural laws. A final cause, even that which explains the operations of intelligence, is itself blind. Its essence, as Darwin has shown, is the causality of the good, not that of idea or intention. The theory of natural selection has introduced into science, the field of determinism, a positive and intelligible teleology, having its own method and logic. A theological or metaphysical finality becomes a superfluity when it is seen that the struggle *for* existence produces as excellent results as could the most beneficent Providence. Richet affirms that, in the microcosmic world of biology, finality is placed beyond a doubt by the continual progress, not only towards life but towards the best possible life.

ANNIE D. MONTGOMERY.

*Religion as an Idea.* W. R. BENEDICT. Int. J. E., XIV, 1, pp. 66-80.

The exact connotation of the word 'Religion' is desired. Definitions emphasizing its sociological and biological, as well as its expansive and dynamogenetic, functions are quoted. These fail to discriminate between what religion is, (1) as existing, and (2) as representing the highest human mental conception. They also reject the idea of a personal God, probably as a reaction against the gross popular anthropomorphism and because of a conviction that enlightened reason cannot accept it. A concrete definition is submitted: "Religion is the binding of a human personality to a supreme personality," — meaning by 'personality' self-conscious intelligence. Is the human mind capable of a higher idea? Spencer's positing of God as the Unknowable is unsatisfactory, while to say that the finite cannot conceive the infinite because the latter is beyond it, is false. The finite is but a means of knowing the infinite. Since individual self-conscious intelligence is an experienced fact, is not unlimited self-consciousness also possible? Neither experience nor logical necessity denies the possibility. A supreme self-conscious intelligence is our highest concept of God, a power of supreme worth which knows that it makes for righteousness. Spinoza's idea of God fits exactly. Scientific evolution also emphasizes self-consciousness as a reality exhibited by the universe. As regards religion, two facts are important: (1) Feeling is individual and fundamental for character; (2) feeling should be trained. Since fact is the basis of feeling, religion, to meet emotional needs, must have intellectual content. James's opposing view is unsound. Religious belief must be rationally grounded in experience and the universe interpreted in the light of such facts as consciousness, conscience, reverence, etc., which alone explain it. Man's truest feelings spring from his loftiest religious conceptions, and since reverence, which is the highest of these, can be felt only for a person, it follows that a personal God is necessary to give them meaning.

FRANK P. BUSSELL.

*The Present Attitude of Reflective Thought Towards Religion*, II. HENRY JONES. *The Hibbert Journal*, II, 1, pp. 20-43.

The contradiction between practical faith in morality and religion and distrust of their theoretic bases, shown in a previous article to be characteristic of our times, demands a new method of defense. It has often been held that religious and moral phenomena belong to a separate province of experience over which reason has no control. Rational necessity is said to be merely subjective, and to hold for objects only as thought, and not for their other possible modes of existence in experience. In place of this method of mutual exclusion, that of mutual inclusion is proposed. The intellectual and the moral life alike consist in the realization of ideals. The process of knowing is not the organization of the wholly unorganized, but is a progress from incomplete toward complete organization. Its possibility rests on the assumption of a complete unity in its object, as well as the objective validity of its data. The conceptions of the infinite and the absolute, like that of unity, cannot be merely regulative criteria, but are implicit in actual experience, since a conception cannot suggest what it does not contain. Knowledge and religion are thus based on the same presuppositions and must share the same destiny. This method of defense prevents the easy attacks of scepticism, but involves the difficulty of explaining the relation between philosophy and religion. This relation must be conceived as organic, *i. e.*, as that of mutual inclusion. Every object of experience is to be regarded as belonging to both realms. The human spirit is not 'will' at one time and 'pure reason' at another, but the one includes the other. A further consequence of this view is that each act of the soul is in relation to the whole of reality. The particular end sought is a partial expression of the universal ideal. Each practical or theoretic judgment is supported by the whole of experience and can be judged false only with reference to an absolute experience. The truth of this hypothesis of an absolute is implied in every act of experience, and thus becomes an absolute postulate. Hence, if reason and religion rest upon the same presupposition, whose validity is continuously demonstrated in experience, the fundamental truth of religion cannot be denied without stultifying the intelligence, and so cannot be denied at all. GRACE MEAD ANDRUS.

#### PSYCHOLOGY.

*Psychologie d'un écrivain sur l'art*. VERNON LEE. *Rev. Ph.*, XXVIII, 9, pp. 225-254.

This article represents an attempt on the part of the author to throw some light upon æsthetic phenomena in general by a psychological analysis of his own temperament. A brief sketch of his early artistic and emotional life, — his tastes, ambitions, and pleasures, — is followed by a thoroughgoing account of his mature likes and dislikes in painting, music, sculpture, architecture, and literature, with whose ancient and modern masterpieces his

profession of art critic has made him familiar. The rôle played by the psychological 'type' in one's æsthetic life is suggestively outlined. For M. Lee, who is decidedly 'motor,' music and natural scenery are preferred above all other beautiful things. The symphony or stream moves, develops, gives rise to sensations of tension, resistance, etc., whereas the greatest visual beauty cannot, by itself, arouse keen enjoyment until translated into terms of action. Preferences based upon type remain throughout life. Following Nietzsche's classification of all men as admirers either of Apollo or Dionysus, L. refers himself to the first group: his tastes are classical, not romantic or dramatic. Sensuous art he finds enervating; that which appeals most strongly impresses one with a sense of power, an intensity of organization. Some beauty, though recognized, displeases because it moves the spirit chaotically; beauty which pleases need not be greater, but its effect must be upon the spirit as a whole. Ugliness and beauty are permanent terms in the æsthetic life, not momentary sources of pleasure and pain, but the enduring conditions of satisfaction and discontent. To enjoy works of art only subjectively, by reading oneself into them, is a sign of immaturity; maturity regards them objectively, as things speaking for themselves. Attraction and repulsion in art are based almost entirely upon pleasant and unpleasant associations of ideas. This accounts for the fact that technically perfect works of art may seem trivial or disagreeable, while far less perfect productions are capable of causing intense emotion. In a word, the criterion of art is a practical one; beauty is not a thing in itself, but depends upon the peculiar interests and innate tendencies, the personal equation, of the individual impressed.

ANNIE D. MONTGOMERY.

*Verstehen und Begreifen*, I. *Eine psychologische Untersuchung*. HERMANN SWOBODA. V. f. w. Ph., XXVII, 2, pp. 131-188.

Everyone has made observations such as gave rise to this discussion. Some things are 'understood,' others are not. Some books, paintings, etc., appeal to us; others leave us cold. One piece of music wafts us away, the other does not find its way into our hearts. It is the purpose of S. to investigate the relation of spirit to spirit; to indicate the conditions and the means of communication between mind and mind; in short, to define more nearly than is popularly done the meaning of the terms used in the title, believing that a more thorough appreciation of the difficult conditions for complete understanding will make uncharitable imputations of bad motives less frequent. What are the objects of expression? What are the means by which expression is secured? In what relation does another individual stand to expression? How does expression become impression? These are some of the questions which S. proposes to answer. But before discussing the objects and means of expression, there should be mentioned a general condition which must be fulfilled, if two minds are to understand each other; there must be in both the same 'psychical situation,' *i. e.*, all the elements which gave rise to an expression must exist

already in the mind of the person who is to understand the expression. That only can be understood adequately by an individual for the expression of which conditions are ripe in his own mind ; which he might have expressed himself. It is evident from this that the objective is more easily understood than the subjective, which presupposes a certain *Stimmung* not always secured in another at will. "Wer den Dichter will verstehen, muss in Dichters Lande gehen." Goethe relates that he never understood the *Odyssey* until he read it walking on the sea shore. And it is easily seen why there is more agreement on questions of natural science than on other questions. The erroneous is readily eliminated or corrected by reference to the stability and uniformity which exists among natural phenomena. It is extremely difficult, on the other hand, to secure unanimity of opinion as to the meaning of terms and the significance of phenomena in literature, history, and philosophy, where so much depends upon the 'point of view' of the person interpreting. From this general condition of understanding, the author passes to two particular conditions, designation and expression, the significance and limitations of which as means of communication must be explained. The former communicates mostly ideas, the latter feelings. There is, however, a large part of the content of consciousness which is non-communicable either by speech designation or by motor and art expression. In the realm of ideas only such designations have been formed as stood for commonly received notions, the individual, the infrequent, remaining nameless. A *mutuus consensus* is necessary in order to attach a designation to an idea. To communicate such an infrequent idea the person must have recourse to description. Nor can all feelings be expressed. The more violent find utterance in motor expression, but the finer feelings do not find such a ready outlet. Description, wordy circumlocution, will not do. We demand direct expression. An important difference between designation and expression must here be mentioned. Expression has primarily a significance for ourselves ; designation is primarily a means of communication. It is only secondarily that designation satisfies an individual need and that expression has social significance or market value. S. passes next to describe more nearly the main objects of designation, thoughts. Thinking means envisaging. True thinking is thinking in images ; and abstract thinking, thinking in concepts, is only true thinking in so far as it stands for, abbreviates, symbolizes images. Our thought moves constantly between the two extremes of pure sight and pure speech ; it is sometimes more of the one, sometimes more of the other. A word may designate things, qualities, events, and relations ; it may have a complete, particularized, detailed reaction, like the words tree, chest, etc., or a summary, representative one, like the words 'insurance company,' 'transcendental philosophy,' etc. Obscure thought can be expressed only by obscure designations. Ordinary language is too clear, too definite. Original thought is always 'intuitive' ; just as, in the case of new words, images are always called into the field of vision.

EMIL C. WILM.



*The Psychic Life of Fishes.* E. C. SANFORD. The International Quarterly, VII, 2, pp. 316-333.

Fishes possess most of the senses which belong to the human mind. The visual and olfactory senses are well developed, being the chief factors in the detection of prey. The tactile senses are exceptionally acute, as is proved by the ease with which fishes detect disturbances in the water. This acuteness probably accounts for most cases of supposed audition. The extent to which fishes are able to sense temperature, pain, and muscular changes is as yet doubtful, and it has been supposed that they have certain senses which men do not possess. It has been conclusively shown that fishes have some capability for education. The apparently intelligent instincts of fishes, *e. g.*, the spawning habits of the salmon, are to be explained as very simple reactions to immediate external conditions, and do not presuppose any high degree of mental development. It may be conjectured that the fish mind possesses a very simple form of perception, that it associates these percepts according to recency, frequency, and vividness, that it has the power of involuntary memory, and perhaps even some glimmerings of consciousness.

GEORGE H. SABINE.

*The Distribution of Attention.* J. P. HYLAN. Psych. Rev., X, 4, pp. 373-403; 5, pp. 498-533.

These articles describe an experimental investigation of the possibility of the distribution of attention. Previous experiments to determine this point are criticised as inconclusive in that their conditions did not really make distribution necessary. It was found that, in counting simultaneous series of sensations, the rate of counting decreased as the number of series increased. This decrease was much greater when the sensations to be counted were from disparate senses. These results, together with the introspection of the subjects, were interpreted as pointing to the conclusion that the attention was not really distributed, but fluctuated rapidly from one stimulus to another. In order to test this conclusion, an experiment was devised by which two series, differing only in the concentration and attempted distribution of attention, could be compared. Again the attempted distribution caused an increase in the reaction time, a result to be interpreted in favor of fluctuation rather than distribution. These results led to an investigation of Wundt's tachistoscopic experiments, which constitute the strongest evidence for distribution. The question is: Was the attention really divided in Wundt's experiments? Elaborate tachistoscopic experiments showed that conscious perception did not take place during the application of the stimulus, but came to consciousness in the form of a mental after-image. It was found that the reaction time again increased in proportion to the number of objects counted. This indicated that the perception was characterized rather by separate acts of attention than by its

distribution. It was further discovered that the number of objects perceived in one exposure depended upon the duration of the mental after-image, which, in turn, depended upon the distinctness and duration of the visual impression. In other words, the number of objects perceived depended rather on physiological conditions than upon a specialized form of mental activity. Practice tended to unite in close perceptive unity impressions which at first could only be united with difficulty. Hence we may conclude that things which we perceive as single objects are composed psychologically of a group of elements which were primarily separate objects of attention. Elements habitually found together become so closely associated that we are not conscious of the steps which bring them together. Distribution of attention, therefore, takes place only when the elements are so closely united that the succession has disappeared. But when this occurs, the object is no longer perceived as a plurality; it has become a conscious unity. Simultaneous distribution is, therefore, a psychological impossibility. The phenomena usually ascribed to distribution are explicable by the duration of the mental after-image.

GEORGE H. SABINE.

#### ETHICS AND ÆSTHETICS.

*Les éléments et l'évolution de la moralité.* M. MAUXION. Rev. Ph., XXVIII, 7, pp. 1-29; 8, pp. 150-180.

(I) The fundamental problem of ethics is to determine the origin and genesis of the fact of morality. It is necessary carefully to distinguish morality from its concomitant facts, particularly from the social organization. To determine the direction of moral progress, recourse must be had to all available material in the shape of narratives of explorers and the history and literature of different peoples. The speculative demand for unity has led many thinkers to consider the good as exclusively the beautiful, the true, individual or social interest, or solidarity. In reality, the moral ideal is extremely complex, and on analysis breaks up into three distinct elements, an æsthetic, a logical or rational, and a sympathetic or altruistic. These three elements of the moral ideal are closely united and capable of acting upon each other. Each may predominate to the exclusion of the others, according to races or individuals. In Buddhist India, in Greece, and in Rome, there is a predominance of the altruistic, æsthetic, and rational elements respectively. (II) The two lines along which moral progress has proceeded, those of intellect and sense, did not advance in a rigorously uniform and parallel way, and consequently the evolution of morality has been marked by arrests, regressions, and deviations, determined by the predominance of one or the other of the two lines of improvement. These irregularities are especially noticeable in the evolution of the æsthetic element. For psychological reasons, largeness appears earlier than order and proportion as an æsthetic factor. Savages and children

are attracted by intensive colors and sounds and by manifestations of physical force. As early as the Homeric period, the æsthetic and moral ideal of beauty as identical with greatness of stature is modified by the added requirement of harmony and proportion. The ideal continued to grow by the incorporation of psychological elements,—courage, prudence, cunning, strength of mind, patience, and moderation. The external elements retained their value, and therefore great importance still attached to another element of the external order, namely, power, which originates from a union of strength, courage, and prudence. The apotheosis of power in the caste system was in some respects favorable to the development of morality, for, through the sacerdotal caste, the æsthetico-moral ideal was gradually stripped of its external attributes, and there arose the new virtues of self-denial, humility, continence, and knowledge. This was in one respect a real advance; in another respect it was a deviation, accentuating by glorification the purely contemplative life, and by practice the most rigorous and excessive asceticism. The apotheosis of power did not appear among the Greeks because of their emphasis on measure and proportion, which ended in the conception of moral beauty as harmony. But from Socrates and Plato on, the moral ideal became more internal; there was a deviation towards the contemplative life which ended in the ecstasy of the Alexandrian School. Religion, the influence of which on morality has been greatly exaggerated, is the expression of the moral state of a people at a given time. In virtue of their traditional character, religions often are an obstacle to moral progress, and, on the other hand, are often a useful barrier against rash innovations. Through the teachings of the church there arose a glorification of the good will, a deviation from the æsthetico-moral ideal more or less dangerous than asceticism or mysticism. (III) Like the evolution of the æsthetic element, to which it is subordinated, the evolution of the rational element was a gradual and extremely slow process. The idea of justice grew out of the admiration accorded to an individual in proportion to his prowess. Once established in its rudimentary form, it would be first applied in expeditions against dangerous animals or tribal enemies to govern the distribution of booty, each person receiving in proportion to his strength and courage. Thus the idea of justice from the first implies proportionality, and this proportionality was controlled by the æsthetic elements already noticed, each new element as it appeared being taken account of in the division of spoil. With the growing realization of the equality of persons, the principle of proportionality was transformed into one of equality of rights. (IV) Unlike the rational element, the evolution of which has followed step by step that of the æsthetic element, the altruistic element has had its own development, not, however, without influencing and being influenced by the æsthetico-moral ideal. The most common and important cause of altruism is the attachment of men and animals to familiar objects and places, and to the beings among whom they are accustomed to live. The banding together of primitive men would

give rise to certain bonds of reciprocal attachment. An increasing solidarity would appear when the tribes ceased to be nomadic, showing itself in a strong attachment to companions in arms, to familiar objects, and to the natal soil. And with the origin of the family would begin the growth of the altruistic sentiments and their corresponding virtues.

M. S. MACDONALD.

*La véracité.* G. BELOT. Rev. de Mét., XI, 4, pp. 430-454.

Ethical theorists define their object as the search for the true good or the true law. But a good or a law are things determining volition and action; a truth is simply a matter of intellectual affirmation. How can a good be true? This paradox at the basis of ethics is emphasized by the conclusion of modern psychology that the dynamic functions of mental life cannot be reduced to judgments. Abstractly and historically, we have a solution in the identification of morality and truth. But this definition is arbitrary and does not correspond with morality as an empirically given fact in human life. Morality should be defined, by universal experience, as an affective and social, not an intellectual function. It may be asked: How are the ideals of such a morality sanctioned for the will of the individual? Here we consider only one side of this problem, viz.: What gives its value to veracity? This virtue seems to lie midway between our two opposing conceptions of morality; it is, on the one side, intellectual; on the other and external side, social. There are two forms of veracity as a social virtue, one entirely practical, regarding actions rather than thoughts; and another social in its nature, but intellectual in its matter, — the scruple to make ourselves instruments of error. We believe that this intellectual form of veracity is latest to appear in conscience, and that this late appearance shows that morality is not an extension of veracity, as intellectualism holds, but veracity a prolongation in the intellect of a morality having its foundation elsewhere. In a complete study of veracity, we would begin with the primitive forms of active deception in animals and men, often automatic, due to vanity or the instinct of self-preservation, etc.; then would follow the 'conventional lies' of social life. Obviously the immorality here, if any, is slight; the origin of deceit is necessary and natural, and its development step by step with the other relations of life makes sincerity difficult. Only with the cessation of the struggle for life is sincerity perfectly possible. Beyond these primitive forms of deceit, we have 'contractual' veracity — to 'keep one's word,' 'be what one seems to be'; this is the central form under which veracity is recognized as a virtue, and it is obviously a form of active probity rather than of intellectual truthfulness. How then does intellectual veracity develop and acquire a moral value? It is relatively late, for early intellectual activity is relatively restricted and individual, and such veracity is more than a simple prolongation of reason and knowledge. It implies a conception of truth and knowledge as social goods to which have a claim, and that this appears late is shown by the distinction of cor-

rect reasoning and the social duty of veracity for the rationalists of the seventeenth century, by the late development of the historic conscience, and by the purely social end of intolerance in its first manifestations. Three principal causes brought about the appearance of intellectual veracity as a virtue: (a) the increasing importance of science in the amelioration of human life; (b) the diffusion of instruction; (c) the division of scientific labor, which for a long time was both an individual task and purely speculative. Technical knowledge, when it finally appears, is a social interest of the first rank. It required division of labor, and thus the veracity of the collaborators became essential. With it comes the recognized need of universal instruction, as the value of a man to society depends on his intellectual ability. The idea of the duty of all to extend truth appears side by side with that of the right of all men to enjoy truth. Truth thus becomes a social good, and in consequence its requisite, intellectual veracity, becomes a virtue. The question whether veracity is nothing more than a virtue is of course absurd, if one defines morality *a priori* as an absolute, and therefore refuses to recognize a principle as moral unless it is at the same time a limit. But this is arbitrary, and it is not absurd to say that there is, in a certain sense, something superior to morality, and to ask how morality is related to this superior principle. This principle, which makes us averse to deception even when salutary or ethically justified, is the search for 'harmony with one's self,' for affirmation instead of negation. But by its generality this principle is logical and rational, not moral; its obligation is formal, while that of morality is real. Yet in veracity we have a special case in which the real matter of obligation and its abstract form almost coincide. Logically and psychologically, then, veracity is a privileged duty. Its reasons extend beyond morality, and are both more general and more special than those of other duties. Ideally imposed by metaphysical necessity, it is like the other real virtues empirically founded on the data of human society. The mistake of the intellectualist theory is that it does not see the specific character of morality, and arbitrarily makes it absolute, thus losing all its real content. EDMUND H. HOLLANDS.

*The Right of Free Thought in Matters of Religion.* FRANK GRANGER.  
Int. J. E., XIV, 1, pp. 16-26.

The world of practice should share in those benefits which philosophic thought may furnish. Social institutions exist that they may minister to human needs, but in their effort to meet man's practical wants they may overlook his higher interests. The highest of these is the free movement of thought in religion and the question is: How far is conformity to be exacted in matters of religion? In particular, what attitude ought to be taken toward the imposition of religious tests upon teachers in England and elsewhere? The objection to such tests arises from the fact that the results of the scientific method which are authoritative in secular investigations conflict with traditional Biblical interpretation. If religion is to be

kept in the schools and hypocrisy avoided by teachers, it must make terms with the scientific method. The legitimate claims of each must be recognized. Science must free men from fears of their own creation. What cannot be rationally explained in the Old or New Testaments should not be taught. Science is the only consistent revelation. All accounts of miracles and even the resurrection of the Christ are of psychological interest, but for the uses of faith, mere rubbish. The spiritual originality of Jesus and the influence of his life and teaching are all that can be accepted as valid. As regards the teacher's relation to the various religious bodies, that is part of the wider question as to whether one who holds to none of the creeds should be allowed to teach. Since the leaders in scientific thought are not orthodox, it is reasonable that atheists should be admitted to the rank and file of the teaching profession. Since the majority of Englishmen are not adherents of any religious sect, and since it appears impossible to frame a belief satisfactory to all, and, further, since the enforcement of religious tests is repugnant to the commonly accepted principles of tolerance, all such tests should be abolished and all the penalties attending the expression of free thought removed.

FRANK P. BUSSELL.

*Art and Morality.* JAMES LAING. *Int. J. E.*, XIV, 1, pp. 55-66.

The art impulse, when it has issued in creation, is an exponent of the moral movement of its time. Primitive forms of spiritual expression lack definiteness. The Egyptians, Babylonians, and other ancient peoples tried to give sensuous form to their ethical and religious ideas, and the remains of their work testify to their striving and failure. Undeveloped moral instincts and contradictory moral practices are concomitants of purposeless art. The Egyptian sphinx alone shows artistic and ethical possibilities, for it expresses, as no other ancient art work, the eternal dualism of matter and spirit. Yet even here, barbarian art could not adequately express the conflict; its medium was imperfect. The Greek art impulse found its medium of expression in the human form. Unconscious of limitation, thought clothes itself in matter which becomes responsive to its highest possibility. The ethical ideals, freedom, harmony, beauty, corresponded for once to the artistic; and so long as art strove to interpret moral truth, it flourished. The decline of Greek art dates from its abandonment of this purpose and the substitution of 'art for art's sake.' Henceforward it lacked moral significance and degenerated into mere æstheticism. There was a parallel tendency in the state, and it too disintegrated. Not only this; the highest Greek art was selective. Sensuous beauty appealed to it. The form of the courtesan might be ideal; but the immorality for which she stood, when translated into a goddess by the hand of Praxiteles, was destructive to manhood and civic welfare. Mere æsthetic faith killed Greek art. The Stoic ideal spoke last in ancient art. It felt life's pathos, but its pessimism was fatal. Then Christianity came. Its universal moral ideal and pure enthusiasm for beauty flamed out in form and color. Be-

yond expression even in painting, it yet glorified, exalted, and transfigured its art. The Madonna, which represents the divinity of motherhood, is the grandest ethical conception of the Middle Ages. In its representation of Jesus, it recognizes the supreme worth of man and idealizes service through sorrow. Yet it too perished as soon as it ceased to portray moral, which is to say religious, truth. Its life went out with its ideal. Within the past century, Goethe and Wordsworth are the creative artists most adequately representing moral progress. Their work transcends the sensuousness of the Greek and the mysticism of the Middle Ages, and, with perfect unity of spirit, grasps and realizes the deeper conception of the eternal and essential unity of the human and the divine. FRANK P. BUSSELL.

*Emerson and German Personality.* KUNO FRANCKE. The International Quarterly, VIII, 1, pp. 93-107.

Essentially American as he was, Emerson had little appreciation of German life and manners, yet in spirit he was in close sympathy with German thought and feeling. The German, restricted in his external life by intense supervision, is perhaps for this very reason forced into a greater individuality of intellectual and moral life than is the American or Englishman. This German characteristic is preëminently Emerson's. In him as in the German, this spiritual individuality expresses itself in a contempt for appearances and a deep seriousness of purpose. From the same root springs also their common delight in small things, which made Emerson love to "sit at the feet of the familiar, the low," and gave him the German conviction of the dignity of scholastic seclusion and simplicity. The natural counterpart of this is a strongly developed sense of the unity of all things, and a consciousness of the infinite spiritual whole of which they are parts. This, too, is characteristic alike of Emerson and the idealistic German poets and thinkers. The last and most important evidence of temperamental affinity, also springing from the same source, is courage of personal conviction and disdain of intellectual compromise. A more immediate connection lies in Emerson's relation to the great German idealists. From them he drew his inspiration, but in applying their thought to the needs of a young and growing nation instead of the disorganized society to which they spoke, he gave it a new vitality. The condition of the German state caused a certain over-refinement and aristocratic spirit, whereas the American Emerson was intensely democratic. While Fichte preached the entire self-surrender of the individual, Emerson, in a more wholesome atmosphere, taught the saner doctrine that the individual's highest service lies in his own complete development. Germany to-day demands the payment of Emerson's debt to her. The great industrial development of the nineteenth century has stunted her spiritual growth, and its scientific specialization has dwarfed her scholarly life. As a reaction against all this, a new spiritual life is stirring, which, in its demands for the ideals of Emerson, will establish a new intellectual bond between Germany and America.

GRACE MEAD ANDRUS.

## NOTICES OF NEW BOOKS.

*Friedrich Nietzsche, sein Leben und sein Werk.* Von RAOUL RICHTER. Leipzig, Verlag der Dürr'schen Buchhandlung, 1903. — pp. vi, 288.

*Friedrich Nietzsche und das Erkenntnisproblem: Ein monographischer Versuch.* Von FRIEDRICH RITTELMAYER. Leipzig, Verlag von Wilhelm Engelmann, 1903. — pp. iv, 109.

*Frédéric Nietzsche: Contribution à l'histoire des idées philosophiques et sociales à la fin du XIX<sup>e</sup> siècle.* Par EUGÈNE DE ROBERTY. Paris, Félix Alcan, 1903. — pp. 212.

*Nietzsche et l'immoralisme.* Par ALFRED FOUILLÉE. Paris, Félix Alcan, 1902. — pp. xi, 294.

While Nietzsche was still alive and even before he became insensible to the fate of his doctrines, a course of lectures was given upon them by Professor Georg Brandes at Copenhagen. Since that time similar courses have been given at other universities, and it is the lectures delivered at Leipzig that form the contents of Dr. Richter's book. Naturally its arrangement is largely determined by the original lecture form, and the latter is doubtless responsible also for the amount and kind of knowledge presupposed in the reader. So far as I am acquainted with the other books which are devoted to Nietzsche's philosophy strictly speaking, they are all technical in language and treatment. Dr. Richter's lectures, on the contrary, presuppose a general knowledge of philosophical thinking sufficient to enable the reader to follow a philosophical argument, but no acquaintance with special doctrines, even those of Kant and Schopenhauer. For this reason his book is perhaps the best that has appeared for the general reader interested in Nietzsche who wishes a critical account and not condemnations nor panegyrics. Moreover, Dr. Richter is fortunate enough to have not only an interesting subject, but an interesting manner of presenting it.

The first division of the lectures deals with Nietzsche's life and personality, the second with his philosophy. The changes that took place in the latter are regarded as due to the gradual recognition on Nietzsche's part of the absurd consequences of his earlier opinions, if pushed to their logical extremes. Just as Kant ultimately reached his critical theory of knowledge by being first led to positivism through the absurd consequences of the Leibniz-Wolffian metaphysics in the field of the theory of knowledge; so Nietzsche was forced by the absurd consequences of the Wagner-Schopenhauerian metaphysics, when applied to the problem of value, to adopt, after a similar positivist phase, his final and critical theory of value. The important position given by Dr. Richter to the problem of value during the whole of Nietzsche's philosophical development is undoubtedly correct; and



it is only through the recognition, which is strangely enough not at all general, of the manner in which other problems always ranged themselves in relation to this one, that anything like a clear conception of Nietzsche's many-sided thought can be gained.

Of all the parts of Nietzsche's philosophy, that which, according to Dr. Richter, is most sure of being remembered in the future, is the relation between the critical positivism of the middle period and the renewed idealism of the later works. Nietzsche had rejected the current values, and shown the errors in which they were rooted. He found his justification for setting up new values in his discovery that value does not belong to outer object nor to inner disposition, but is given by ourselves to whatever we will. Whatever we strive for we make valuable. Value is created and measured by the individual will, and accordingly everyone has a right to set up new systems of value. To do so he must find out what it is that he at bottom really wills, and if he goes deep enough to discover some original value, individual though it must be, he is serving the cause of philosophy. To convince his fellowmen that his value is not an end for his own will alone, he must make it seem desirable to them, he must appeal to their feelings rather than to their reason, until his end acquires a value for them as well as for himself. This is exactly what Nietzsche tried to do. His new system consists of an original value and of the subordinate values derived from it. The original or fundamental value is *life*, which, upon the basis of Darwinism, is explained to mean the production of the over-man, a new species as superior to man as man is to the ape. The places in which Nietzsche speaks of the over-man as having actually existed and points out particular historical characters as deserving the name, are to be regarded as examples of ambiguous terminology. The biological meaning is the important one for Nietzsche's system, the other is a slip of the pen. Perhaps it is, but how is one to know? However, whatever the over-man may be, all that helps to produce him, all that is strong, thereby acquires a value, and there results a scale of values subordinate to the fundamental biological one.

The criticism of Nietzsche's ethics and metaphysics, at once keen and appreciative, is nevertheless not so distinctive a feature of the book as the account of the development and final form of his theories. Others have recognized much the same advantages and excellencies, and have pointed out much the same defects. No one else has given us an exposition of exactly this sort, and few have succeeded in producing one that is so good.

Herr Rittelmeyer's monograph is in many ways different from that just discussed. In the first place, its subject matter is limited to Nietzsche's theory of knowledge, and, as the writer himself says, Nietzsche's influence and significance do not depend upon his work in that field. Moreover, the material is presented book by book, and, save a general division into three periods, no attempt is made to group the contents of the different volumes, even those containing the selections from the papers not prepared by

Nietzsche for publication. So strict a chronological arrangement necessarily gives one an impression of scrappiness, especially in the pages that deal with the first period, when Nietzsche wrote little that has a direct or indirect relation to a theory of knowledge. This objection does not of course apply to the second and smaller portion of the work, which is devoted to criticism, as the first is to exposition, and which contains much that is of interest and value upon the subject of Nietzsche's theory of knowledge and its significance for the present and the future.

The other two books to be considered attack their subjects from a different standpoint. Both M. Fouillée and M. de Roberty are interested first of all in the individualistic nature of Nietzsche's ethics, although they arrive at opposite conclusions concerning it. The one finds in its anti-social tendencies the reason for its condemnation, the other denies that it is anti-social or even egoistic. According to the latter account, that of M. de Roberty, Nietzsche's disciples and opponents are both entirely mistaken in their impressions about his philosophical position. They persist in taking his poetic statements literally, a procedure that with a writer of Nietzsche's vivid imagination and picturesque style necessarily leads to a total lack of comprehension of his opinions. In reality Nietzsche was an altruist, and his famous exhortation, *Werdet hart*, points out the helpful relation that should exist between men. Thinking of a pity that was of a higher nature than that ordinarily known by that name, and not wishing to confuse the two, at a loss for a word he took refuge in one that expressed the exact opposite of the lower pity and which, therefore, could not be confounded with it. And we, fools that we are, have thought that he meant literally what he said !

The daring of such an interpretation, when it rests upon the authority of a single man against the unanimous opinion of both friends and foes of the philosopher in question, seems to demand a more definite vindication than its author gives it. Upon him rests the burden of proving his position, and until he goes into the matter more in detail, his general statements require no refutation. Moreover, the entire absence of regard to the changes that Nietzsche's views underwent during the years of his literary activity, renders M. de Roberty's book confusing to a degree. One never knows how chronologically general he intends a statement to be. He even speaks of the utilitarian origin of morality as if it belonged to the Zarathustra period.

Interested especially in sociology, he devotes a large share of his attention to the sociological aspect of Nietzsche's doctrines, including not only their theoretical significance but their practical influence. Indeed, to borrow his own language, he honors, admires, and loves Nietzsche because the latter is a health-making force (*assainisseur*). Nietzsche's great error, among many, is his failure to comprehend the relation between the individual and society, which must from their origin and nature be of assistance to each other, not deadly foes, as Nietzsche pictures them.

M. Fouillée's monograph on Nietzsche, excellent as it is in many respects, is too much concerned with a catalogue of Nietzsche's inconsistencies and of his points of inferiority to Guyau, to leave one with a just impression of Nietzsche's opinions. To be sure, as Fouillée explains in the first lines of his book, the study was undertaken as a necessary preface to his own doctrines, which demanded an examination of the problems of the existence and value of morality. Viewed in the light of this explanation, the book becomes comprehensible, if not more helpful to an understanding of Nietzsche's position.

One of the best portions of the book is the introduction, which gives an account of Stirner and of Guyau. In fact, the chapter dealing with the latter is the most satisfactory short exposition the writer remembers to have seen. The contrast between Guyau and Nietzsche is made to depend upon the latter's extreme individualism. The resemblances in their doctrines are emphasized sufficiently; but, with the utmost willingness to find likenesses, these can hardly be made to extend much beyond the negative and critical portions of their writings. The great exception to this general fact is the predominant position given by both to *abundance of life*. The latter, however, is a favorite conception of the time, and the use made of it by Nietzsche and Guyau make it seem two entirely different doctrines rather than one. While both set up life as the supremely valuable and denied that any ideal limitations should be opposed to its free development, Guyau maintained that the fullest life was essentially altruistic in nature, while Nietzsche regarded it as egoistic. For the one, life is social; for the other, it is individualistic. According to Fouillée, such a biological conception is in itself unsatisfactory; but apart from such initial inadequacy, the form given it by Guyau appeals both to reason and feeling in a manner totally foreign to Nietzsche's parallel doctrine. The latter overlooks or denies a large share of the facts that the former recognizes and appreciates.

The chapter dealing with Nietzsche's own opinions of Guyau is a valuable contribution to Nietzsche literature. Nietzsche did not discuss Guyau's theories in his published writings, but he owned some of Guyau's books and in them underscored and criticized whatever caught his attention. That he recognized the likeness between himself and Guyau seems certain. That he was not altogether fair in his judgments of the other's theories is almost equally so. At any rate, the comments throw light upon the vexed question of what Nietzsche's opinions really were.

If one forgets the fact that M. Fouillée's book is about Nietzsche, — for, as has been said, it is too unsympathetic in tone to be helpful to an understanding of Nietzsche's theories, — and regards it as an examination of the general question of the foundation of morality, too much can hardly be said in its praise. It is keen in its analysis, suggestive in the best sense of the word, and of especial interest to every student of the prevailing tendencies in ethics.

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*A History of the Problems of Philosophy.* By PAUL JANET and GABRIEL SÉAILLES. Translated by ADA MONAHAN. Edited by HENRY JONES. Vol. I, pp. xxviii, 380; Vol. II, pp. xii, 375. London, Macmillan and Co., 1902.

The problems of which this work gives a history are treated under the four heads, Psychology, Ethics, Metaphysics, and Theodicy. Half of the work, the whole first volume, with the exception of the editor's Introduction and a preface in French to the English edition by one of the authors, is devoted to the problems grouped under the first of these heads. The first chapter under "Psychology," however, is entitled, "What is Philosophy?" which seems a rather curious inversion of what might naturally appear as the logical order. Nor do we get a very illuminating answer to this question by being told, at the close of the historical survey, that philosophy is just the "striving after the intelligible," the "desire to understand the meaning of things" (I, 26). This is sufficiently vague and broad to include any and every science. We are told, however (I, 52), that philosophy is distinguished from other sciences by two of its data, namely, (1) the *fact of consciousness*—whence psychology, and (2) the *notion of the universal*, or of *unity*—whence metaphysics. The two divisions of philosophy should, accordingly, it would seem, be psychology and metaphysics. Why then do we have ethics and theodicy introduced as coördinate divisions? But the place of psychology among the philosophical disciplines appears doubtful, when we discover (I, 46) that psychology, by a law of scientific progress, has parted from metaphysics and become positivistic. Still, we are told, there remains a task for philosophy which empirical psychology does not satisfy, namely, "the criticism of knowledge," "the study of the necessary conditions of thought," whose end is metaphysics. From this it would appear that, in the view of the authors, the proper divisions of philosophy should be, theory of knowledge and metaphysics, with metaphysics supreme. But this view is not definitely formulated, nor is it indicated as the result of the historical evolution. It is uncertain, therefore, how far the authors regard the titles chosen for grouping the material as essential, how far as merely traditional. If meant as essential, how do they agree with the indications mentioned? If as merely traditional, why do they not include also logic and æsthetics, not to name the various divisions of the philosophy of nature and the philosophy of mind, which are only incidentally referred to, if at all?

Besides the problems as to what philosophy is and as to what the problem of psychology is, the topics treated under the head of "Psychology" are: the senses and external perception, reason, memory, the association of ideas, the feelings, freedom, and habit. The proper psychological and the proper philosophical problems are all here more or less blended and confused, as, indeed, they appear in the history of their development. The problems of ethics are not thus topically subdivided, the divisions here being: (1) The Ethical Problem in Ancient Times, and (2) The Ethical Prob-

lem in Modern Times. The problem — in the singular — is said to be (II, p. 89) "to discover the meaning of life, to discover the principles which can coördinate all its acts." But what, exactly, the logical relation of these two clauses is, is doubtful; they certainly cannot mean precisely the same thing. There are four problems treated under "Metaphysics": Scepticism and Certitude (an epistemological problem, which would seem, from what was said above, to belong rather under the chosen title of Psychology), Matter, Mind, and The Relation between Matter and Mind. Then, under the title of "Theodicy," we again have a chronological division: The Religious Problem in Ancient Times and in the Middle Ages, and The Religious Problem in Modern Times, followed by a chapter treating of the special Problem of a Future Life.

Under each of these several heads the authors give a well-arranged historical account of the views that have been entertained concerning the topic under discussion, with some indication, in conclusion, of what they regard as the most important results of the development. The historical survey extends from the times of the earliest Greek thinkers down to times comparatively recent. The most recent phases of the discussion do not appear. And there is considerable unevenness in the treatment; in modern philosophy, for example, much space is given to the opinions of French writers, especially those of the Cartesian school, to the Scotch school, and, among later English writers, to Mill and Spencer, while the German idealists and their English successors receive practically no recognition at all. Professor Jones complains of this defect in his Introduction (I, xi); M. Séailles explains it by saying (p. xix) that the book was written for pupils of the French lycées and for students, and must, therefore, not be judged as a work of pure science. Even so, one is disposed to agree with Professor Jones, who says that the defect is even more serious for French students than for our own. One wonders, however, whether the book is really of the sort to prove especially serviceable to young students. It is certainly not adapted for use as a text-book in an American college; it cannot take the place of a general history of philosophy, and it could not well serve as an introduction. Its chief value seems to be as a book of reference for one interested in looking up the history of a special topic. For such a reader the book is certainly useful, though it would have been still more useful had its scope been less restricted. The instructed reader will find frequent occasion to disagree with the judgment of the authors in their representations and estimates of writers and views in detail, but he will also find a large amount of material bearing on the particular subject discussed not brought together in so convenient a form for reference and comparison in any other book. The large number of well-selected quotations at first hand is a feature of the work especially noteworthy.

Each volume contains an index of the proper names, with dates annexed, and the subject in connection with which the name is mentioned. In using the book, one feels constantly the lack of a general index of subjects.

*The Surd of Metaphysics: An Inquiry into the Question: Are there Things-in-Themselves?* By PAUL CARUS. Chicago, The Open Court Publishing Company, 1903. — pp. 225.

Dr. Carus, as a positive monist, regards the problems of metaphysics as being like the mathematical surd, — not only irreducible but wholly irrational. He therefore declares it his ambition to eliminate from philosophy the "surd of metaphysics." He conducts his discussion under three heads: (1) The Elimination of the Metaphysical Surd from Philosophy; (2) The Metaphysical Residue in the Systems of Modern Thinkers; (3) The Soul as a Thing-in-itself.

The second division of his treatment is an exposition and criticism of the metaphysical conceptions of various representative thinkers, chiefly since the time of Comte, and really adds nothing to the understanding of the author's position. The other sections naturally concern the two grand divisions of metaphysical speculation, viz., the objective and subjective reality.

Like all the positivists, Dr. Carus seeks to solve the metaphysical problem by simply denying it. He even abrogates the 'Unknowable' of ordinary positivism, as being a metaphysical surd. Accordingly he limits knowledge to mere description and classification of experience, and, like Spencer, reduces the legitimate field of investigation to a philosophy of the sciences.

Although Dr. Carus's aim is to eliminate the metaphysical problem from speculation, nevertheless he appears to have actually reinstated it, simply in new dress, at every step of his discussion. For example, he opposes the dualism of Kant by positing a verbal monism, in which the subject and object are regarded as mere abstractions, "aspects" of one and the same reality. Both subject and object he regards as real, yet as to what the reality of "abstractions" or "aspects" consists in, we are not informed. Nor does he attempt to explain how one reality happens to have these two aspects. The dualism of Kant would appear to be more in harmony with empirical facts, to which positivism limits itself, than is the metaphysical "One" of Dr. Carus. When from the two "aspects" he goes back of empirical facts and hypothesizes only "one" reality, he thereby posits his "metaphysical surd" and so abandons his principle.

We have a unique contribution by Dr. Carus in his doctrine of "form," which, however, distinctly suggests Aristotle. Thus he holds that space, time, and all other forms in the objective world are not mere abstractions or mental contributions, but have reality in and of themselves. There are no things in themselves, but there are forms in themselves. In this manner he transposes into the objective world the formal categories of Kant, and hypostasizes them into realities. But how this is an improvement upon Kant is not manifest. His treatment of the soul is but a special application of his general principle. He defines soul as the "form" of the feelings; and mind forms are a "reflection" of the forms of objective existence. As

to what the reality of "form" may be, in any case, other than an abstraction, he gives us no explanation. But here again, in fact, it is evident that his "form" is but the reappearance of his "metaphysical surd."

Although we are unable to agree that Dr. Carus accomplishes the task he has given himself, his book may be regarded as an interesting contribution to the literature concerning the metaphysical puzzle.

GEORGE S. PAINTER.

BRYN MAWR COLLEGE.

*Contemporary Psychology.* By GUIDO VILLA. London, Swan Sonnenschein & Co., Ltd.; New York, The Macmillan Co., 1903. — pp. xiv, 396.

In the preface, the author expresses the hope that his book may serve as a critical and historical introduction to modern psychology. Considered in both of these aspects,—the critical and historical,—the book can hardly realize the expectation of the author. Indeed, so far from being critical, the main impression it produces is lack of criticism. On the historical side, also, the presentation strikes one as scanty and unsystematic. In addition to the introduction and conclusion, the book contains eleven chapters,—one each on The Historical Development of Psychology, The Object and Scope of Psychology, Mind and Body, The Methods of Psychology, Psychological Functions, The Composition and Development of Mental Life, two on Consciousness, and three on The Laws of Psychology. The uncritical character of the work is exhibited in the close adherence to Wundt in matters of opinion. This statement is evidenced in general by the frequent references to Wundt's works, but, particularly, by the treatment of the laws of psychology. And it should be added that there is not only a considerable lack of clearness, but, in many cases, sheer lack of understanding in the avowed exposition of Wundt's views. This is notably true of the account (p. 210) of Wundt's doctrine of will, in which nothing is said of the intimate relation between affective and volitional processes. The historical exposition is very often brief and vague. This charge is true of the chapters on the methods of psychology, particularly the discussion of psychophysical methods (pp. 143-147), and of that on the composition and development of mental life (pp. 224-257), which attempts to sum up in a few pages the whole matter of experimental psychology. Sentences like the following are too frequent for serious work: "Another physiologist incidentally connected with psychology was Carpenter, whilst Huxley also makes noteworthy psychological observations in his numerous zoölogical works" (p. 43). Again, in the chapters on the Object and Scope of Psychology, the relation of psychology to logic, ethics, epistemology, and æsthetics is disposed of in a page and a half (pp. 82-83). The list of *errata* is long; but even then the errors, particularly in the spelling of proper names, are not exhausted. Thus, p. 14, note, "Strumpf" for "Stumpf"; p. 46, "Menmam" for "Meumann" (this spelling occurs through-

out); p. 47, "Kieson" for "Kiesow"; p. 53, "Shima" for "Shinn" (Miss); p. 54, "Paulton" for "Paulhan." One serious perversion of meaning occurs on page 192: "Although Lange and James differ on certain points, the former being more especially a psychologist and the latter a physiologist, they agree nevertheless in all essentials." It would seem that the book stands in need of a thorough revision, before it can hope to attain the excellence of the "Library of Philosophy," in which it appears.

H. C. STEVENS.

*The German Influence on Samuel Taylor Coleridge.* An Abridgement of a Thesis presented to the Faculty of the Department of Philosophy of the University of Pennsylvania. By JOHN LOUIS HANEY. Philadelphia, 1902. — pp. 44.

*Thomas De Quincey's Relation to German Literature and Philosophy.* Inaugural-Dissertation zur Erlangung der philosophischen Doctorwürde an der Kaiser-Wilhelms-Universität Strassburg. Vorgelegt von WILLIAM A. DUNN. Strassburg, 1900. — pp. 136.

These theses, abounding in citations, form part of the apparatus for any organized study of the relations of English and German thought in the early nineteenth century. The theses themselves differ in methods and results. Dr. Haney's, centering in Coleridge's literary biography, falls into such chapters as: Before the Visit to Germany (1772-1798); Coleridge in Germany (1798-1799); Immediate Results (1799-1800), etc. A chapter of summary offers fairly positive conclusions: "Coleridge's indebtedness to German writers was twofold, embracing his literary obligation to Lessing, Schiller, and Schlegel, and his philosophical affiliations with Kant, Fichte, and Schelling. . . . How much of his criticism Coleridge owed to Schlegel is difficult to determine . . . in developing the general ideas indicated by Lessing, both critics . . . coincide in certain utterances" (p. 40). Dr. Haney, Coleridge notwithstanding (cf. *Dejection*, and a forthcoming review in *Jour. Eng. and Germanic Philol.*), holds that Göttingen turned the poet into a metaphysician.

The late Dr. Dunn's thesis takes chief authors, — Lessing, Goethe, Schiller, Kant, Richter, — for chapter subjects. It comes, in point of philosophical influence, to somewhat negative conclusions: De Quincey was affected far more by concrete literary models than by philosophical principles. Dr. Dunn's material is fuller, yet less unified, than Dr. Haney's.

Both theses, however, mark the specific boundaries, respectively, of Coleridge's and De Quincey's wide, irregular reading of German authors. Both show the nature of their work as popularizers. Both belong to an unfortunately meager list of comparative studies in the period, the most recent of which are Dr. Batt's *Contributions to the History of English Opinion of German Literature*, *Mod. Lang. Notes*, Vol. XVII, p. 83; Vol. XVIII, p. 65, etc. Other supplementary apparatus is found in Dr. Haney's thorough *Bibliography of Coleridge* (printed for private circulation), Phila-



adelphia, 1903. We welcome the announcement from France of a through-going study of Coleridge and the German philosophy by M. Aynard, a former pupil of M. Legouis, the authority on Wordsworth.

L. COOPER.

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The following books also have been received :

*Naturalism and Agnosticism.* By JAMES WARD. Second edition. 2 Vols. London, A. & C. Black, 1903.—pp. xx, 333 ; xiii, 301.

*Studies in Logical Theory.* By JOHN DEWEY, with the coöperation of the members and fellows of the Department of Philosophy of the University of Chicago. Chicago, The University of Chicago Press, 1903.—pp. xiii, 388.

*The Republic of Plato.* Edited with critical notes, commentary, and appendices by JAMES ADAM. 2 Vols. Cambridge, at the University Press, 1902.—pp. x, 364 ; 532.

*The Laws of Imitation.* By GABRIEL TARDE. Translated from the French by E. C. PARSONS. New York, Henry Holt & Co., 1903.—pp. xxix, 404.

*The Philosophy of Auguste Comte.* By L. LEVY-BRUHL. London, Swan Sonnenschein & Co., 1903.—pp. xiv, 363.

*Philosophy in Poetry.* By E. HERSHEY SNEATH. New York, Chas. Scribner's Sons, 1903.—pp. viii, 319.

*Principia Ethica.* By GEORGE E. MOORE. Cambridge, at the University Press, 1903.—pp. xxvii, 232.

*The Nature of Man : Studies in Optimistic Philosophy.* By ÉLIE METCHNIKOFF. Translated by P. C. MITCHELL. New York and London, G. P. Putnam's Sons, 1903.—pp. xvii, 309.

*The Philosophy of Hobbes in Extracts and Notes collated from his Writings.* Selected and arranged by F. J. E. WOODBRIDGE. Minneapolis, The H. W. Wilson Co., 1903.—pp. xxxvi, 391.

*Life and Teachings of Abbas Effendi.* By MYRON H. PHELPS. New York and London, G. P. Putnam's Sons, 1903. — pp. xliii, 259.

*The Psychology of Child Development.* By IRVING KING. Chicago, The University of Chicago Press, 1903. — pp. xxi, 265.

*Animal Education.* By JOHN B. WATSON. Chicago, The University of Chicago Press, 1903. — pp. 122.

*Humanism : Philosophical Essays.* By F. C. S. SCHILLER. London, Macmillan & Co.; New York, The Macmillan Co., 1903. — pp. xxxii, 297.

*St. Anselm : Proslogium ; Monologium ; An Appendix on Behalf of the Fool by Gaunilon ; Cur Deus Homo.* Translated from the Latin by S. N. DEANE. Chicago, The Open Court Publishing Co., 1903. — pp. xxxv, 288.

## NOTES.

As we go to press, the sad news of the death of Mr. Herbert Spencer is announced. He was born on 27 April, 1820, and died on 8 December, 1903. It will be remembered that, though he never was physically strong, and was practically an invalid toward the end, his literary activity extended through the entire last half of the nineteenth century. In the near future we hope to publish an estimate of his contribution to philosophy.

On the 4th of February, 1904, it will be a hundred years since the death of Kant. In Germany this day will be commemorated by academic addresses at various university centers and by the appearance of many books and articles; while the *Kant-Studien* will be issued in enlarged form as a special memorial number. German scholars who are interested in the philosophy of Kant have undertaken to provide, as a memorial to Kant on this occasion, an endowment for the *Kant-Studien*, in order thus to secure its continuance as a special organ for the discussion and further development of the principles of the Critical Philosophy. The support and assistance of friends of the Kantian philosophy in America are earnestly invited and requested. Subscriptions may be sent to the editor, Professor H. Vaihinger, Halle a. S., or to the American editor, J. E. Creighton, Cornell University, Ithaca, N. Y.

Dr. W. G. Smith, Lecturer in Experimental Psychology at King's College, London, has accepted a similar position at the University of Liverpool. Dr. C. S. Myers succeeds Dr. Smith at London.

A special number of the American Journal of Psychology has recently been issued dedicated to President Stanley Hall in commemoration of the twenty-fifth anniversary of his attainment of the Doctorate in Philosophy. There are twenty-six papers contributed by former students and colleagues, making a total of four hundred and thirty-four pages.

We regret to announce the death of Professor Arthur Allin, of the Department of Psychology in the University of Colorado.

The third annual meeting of the American Philosophical Association was held at Princeton, December 29-31.

We give below a list of the articles, etc., in the current philosophical journals:

THE MONIST, XIV, 1: *Ernst Mach*, Space and Geometry from the Point of View of Physical Inquiry; *August Forel*, Ants and Some Other Insects; *Hugo Radau*, Bel, the Christ of Ancient Times; *Editor*, Christianity as the Pleroma; Book Reviews and Notes.

THE INTERNATIONAL JOURNAL OF ETHICS, XIV, 1: *Alice Henry*, The Special Moral Training of Girls; *Frank Granger*, The Right of Free

Thought in Matters of Religion ; *John A. Ryan*, Were the Church Fathers Communists? *George Rebec*, Byron and Morals ; *James Laing*, Art and Morality ; *W. R. Benedict*, Religion as an Idea ; *J. D. Stoops*, Three Stages of Individual Development ; Discussion ; Book Reviews.

MIND, No. 48 : *G. E. Moore*, The Refutation of Idealism ; *C. M. Walsh*, Kant's Transcendental Idealism and Empirical Realism ; *W. McDougall*, The Physiological Factors of the Attention-Process (III) ; *G. R. T. Ross*, The Disjunctive Judgment ; Discussions ; Critical Notices ; New Books ; Philosophical Periodicals ; Notes.

THE PSYCHOLOGICAL REVIEW, X, 6 : *I. W. Riley*, The Personal Sources of Christian Science ; *G. B. Cutten*, The Case of John Kinsel (II) ; *Warner Fite*, The Place of Pleasure and Pain in the Functional Psychology ; Discussion ; Psychological Literature ; New Books ; Notes.

THE HIBBERT JOURNAL, II, 1 : *Edward Caird*, St. Paul and the Idea of Evolution ; *Henry Jones*, The Present Attitude of Reflective Thought Toward Religion, II ; *G. F. Stout*, Mr. F. W. H. Myers on "Human Personality and its Survival of Bodily Death" ; *T. K. Cheyne*, Babylon and the Bible ; *Lewis Campbell*, Morality in Æschylus ; *B. Bosanquet*, Plato's Conception of Death ; *C. F. Dole*, From Agnosticism to Theism ; *C. E. Beeby*, Doctrinal Significance of a Miraculous Birth ; Discussions ; Reviews.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XIV, 3-4 : *H. Beaunis*, Contribution à la psychologie du rêve ; *August Kirschmann*, Deception and Reality ; *J. H. Hyslop*, Binocular Vision and the Problem of Knowledge ; *I. M. Bentley*, A Critique of 'Fusion' ; *M. F. Washburn*, The Genetic Function of Movement and Organic Sensations for Social Consciousness ; *Joseph Jastrow*, The Status of the Subconscious ; *Adolph Meyer*, An Attempt at Analysis of the Neurotic Constitution ; *G. T. W. Patrick*, The Psychology of Football ; *W. H. Burnham*, Retroactive Amnesia ; *J. H. Leuba*, The State of Death ; *A. F. Chamberlain*, Primitive Taste-words ; *Beatrice Edgell*, On Time Judgments ; *E. B. Titchener*, Class Experiments and Demonstration Apparatus ; *Max Meyer*, Experimental Studies on the Psychology of Music ; *O. Külpe*, Ein Beitrag zur experimentelle Aesthetik ; *A. C. Ellis* and *M. M. Shipe*, A Study of the Accuracy of the Present Methods of Measuring Fatigue ; *J. A. Bergström*, A New Type of Ergograph ; *W. B. Pillsbury*, Attention Waves as a Means of Measuring Fatigue ; *G. M. Whipple*, Studies in Pitch Discrimination ; *J. McK. Cattell*, Statistics of American Psychologists ; *Yujiro Motora*, A Study on the Conductivity of the Nervous System ; *T. L. Bolton*, The Relation of Motor Power to Intelligence ; *F. B. Dresslar*, Are Chromæsthesias Variable? *E. C. Sanford*, On the Guessing of Numbers ; *E. F. Buchner*, A Quarter Century of Psychology in America ; *L. N. Wilson*, A Bibliography of the Published Writings of President G. Stanley Hall.

THE AMERICAN JOURNAL OF THEOLOGY, VII, 4: *H. Weinell*, Richard Wagner and Christianity; *L. M. Conard*, The Idea of God held by North American Indians; *W. R. Betteridge*, The Interpretation of the Prophecy of Habakkuk; *W. B. Smith*, The Pauline Manuscripts F and G, II; Recent Theological Literature.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, IX, 3: *Ludwig Stein*, Der Neo-Idealismus unserer Tage; *E. von Hartmann*, Mechanismus und Vitalismus in der modernen Biologie; *James Lindsay*, The Nature, End, and Method of Metaphysics; Jahresbericht.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, X, 1: *Carl Hebler*, Über die Aristotelische Definition der Tragödie; *Dr. Eisele in Urach*, Zur Dämonologie Plutarchs von Chäronea; *R. Witten*, Die Kategorien des Aristoteles; *O. L. Umfrid*, Das Recht und seine Durchführung nach K. Chr. Planck; *P. Schwartzkopff*, Nietzsche und die Entstehung der sittlichen Vorstellungen; Jahresbericht.

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## THE PHILOSOPHICAL REVIEW.

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### THE ETERNAL AND THE PRACTICAL.<sup>1</sup>

THERE are two general tendencies of opinion which nearly all recent thinkers, whatever be their school, seem disposed to favor. The first of these tendencies is that towards a considerable, although, in different thinkers, a very varying, degree of empiricism. "Radical empiricism," such as that of Professor James, has its defenders in our days. A modified, but still pronounced, empiricism is found in more or less close and organic connection with the teachings of recent idealists, and of various other types of constructive metaphysicians. The second of the contemporary tendencies to which I refer is closely associated with these modern forms of empiricism. It is the tendency towards what has been lately named 'pragmatism,' the tendency, namely, to characterize and to estimate the processes of thought in terms of practical categories, and to criticise knowledge in the light of its bearings upon conduct.

I am speaking, so far, not of precisely definable theses, but expressly of tendencies. Whatever may be the rationalistic bias or tradition of any of us, we are all more or less empiricists, and we are so to a degree which was never characteristic of the pre-Kantian rationalists. Whatever may be our interest in theory or in the Absolute, we are all accustomed to lay stress upon practical considerations as having a fundamental, even if not the most fundamental, importance for philosophy ; and so in a general, and, as I admit, in a very large and loose sense of the term, we are

<sup>1</sup> Read as the Presidential Address at the third annual meeting of the American Philosophical Association, at Princeton, December 30, 1903.

all alike more or less pragmatists. These, then, are common modern tendencies, which thinkers of the most various schools share. In view of these facts, we have a right to rejoice in the degree to which we have come, despite all our differences, to a certain unity of spirit. On the other hand, even in recognizing this attainment of a certain degree of unity, we have also defined the central problems of modern investigation. They are, first, the problem as to the place which our acknowledged and indispensable empiristic tendencies ought to occupy in the whole context of our philosophical opinions; and, secondly, the problem as to the share which our practical postulates, our ethical undertakings, our doctrine of conduct, ought to have in determining our entire view of the universe.

### I.

Empiricism, its worth, its justification, its limitations, its lesson—these together form an old story in controversy. I propose in this address, which the kindness of the Association has called me to prepare, to ask your attention to the other of the two tendencies which I have mentioned. I shall try to discuss some of the general relations between our ideals of conduct and our acknowledgement of truth. I need not pause to set forth, in any detail, the well-known fact that the question thus indicated is in its general form by no means a modern question. Both Stoics and Epicureans made it prominent. Earlier still, in consequence of the methods of Socrates, both Plato and Aristotle gave it a significant place in their theories of truth. In modern thought, again, as I also need not at length describe, this problem is by no means confined to contemporary philosophy. Kant's contrast between the theoretical and the practical reason gave our question central importance for the structure of his own system of doctrine. Fichte's philosophy is a deliberate synthesis of pragmatism with absolutism. Hegel made the question a fundamental one in various places in his *Logic*. In the *Phänomenologie*, the romantic biography of the *Weltgeist*, as Hegel there narrates, the tale has all the principal crises due to the conflicts of the theoretical with the practical reason, while all the triumphs of the hero of this

story consist in reconciliations of pragmatic with theoretical interests. Thus, then, the main problem of pragmatism is no more exclusively modern than is that of theism or of empiricism. The occasional efforts to represent the newer insights upon this topic as wholly due to the influence of the most recent doctrines of evolution, and as wholly replacing certain 'preëvolutionary' tendencies of thought,—these efforts, I say, where they exist, result from fondness for over-emphasizing the adjective 'new,'—a fondness from which we all in this day suffer, whether we are philosophers or business men, promoters or investors, trustees of universities or humble investigators. There is, indeed, in a sense, a new pragmatism; for the thought of to-day has its own inspirations, and, like any individual tendency in the spiritual world, it is no mere echo of other tendencies or ages. But pragmatism is ancient, is human, has been faced countless times before and will be considered countless times again, so long as men labor for the good, and long for the true. We are here dealing with pervasive tendencies of modern opinion indeed, but not with startling new discoveries,—with questions of to-day, but with ancient issues also,—with problems which modern democracy may emphasize, but which old religions and social orders already made familiar to the wise men of yore.

For this very reason, however, now that I attempt to discuss some aspects of our problem in the light of contemporary interests, it seems to me advisable not to limit my discussion by attempting to keep within the bounds of a direct polemic against such recent expressions of opinion upon the subject as I do not altogether accept. There are several very notable volumes that have been, of late years, devoted to making explicit certain forms of pragmatism. Professor James's inspiring *Will to Believe*, the recent Chicago *Studies in Logical Theory*, by the members of Professor Dewey's vigorous and productive school, Mr. F. C. S. Schiller's essays published under the title *Humanism*,—these are books of the day, all well known very probably, to every one of you. It would be a tempting task to try to review some one or perhaps all of them. But, as I have said, while the books and the persons are indeed new and unique, the

issues are old. I am deeply interested in the persons ; but I have time in this paper only for some few of the main issues. While I shall freely refer in general to the current literature of pragmatism, my main argument is one that would remain valid even if the issues of pragmatism were to come to our notice as ancient questions, and not as incidents of the literature of our times. While, then, I shall indeed refer now and then to this literature, I shall not try to treat it in any explicit way. Polemic, whenever it refers to any one author, must rest upon exposition ; exposition requires more time than this occasion allows me, raises questions of an exegetical character, and usually dissatisfies the author whom you expound, unless in the end you agree with him in opinion. As Wundt once remarked during a literary controversy: "We are all most erudite with respect to our own books" ("Sind wir doch alle in unseren eigenen Büchern am besten bewandert"). I constantly try to become more or less erudite regarding the contents of other men's books ; but this is no place to trouble you with an attempt to display such erudition, or to force my colleagues to point out how ill I may have succeeded in understanding them.

I propose, then, to try to state the relation of the doctrine of conduct to the theory of truth as if the question were not especially characteristic of to-day. I propose to treat it rather as a question of what I shall call eternal importance. This question is : How far is our knowledge identical with an expression of our practical needs ?

Nevertheless, I may still permit myself to make one merely personal confession before I go on to my main task, — a confession which relates, indeed, to a totally ephemeral matter. Being, as I just said, more erudite than are the rest of you regarding my own writings, I may venture to tell you that once in my life, before I fell a prey to that bondage of absolutism wherein now I languish, there was a time when I was not a constructive idealist of any sort, and when, if I understand the meaning of the central contention of pragmatism, I was meanwhile a very pure pragmatist. Accordingly, I published in the year 1881, in connection with the Kant centennial celebration of that year, an essay



entitled: "Kant's Relation to Modern Philosophical Progress." I was then twenty-six years old and had been deeply influenced by Professor James's earlier lectures and essays. My paper was printed in Dr. Harris's *Journal of Speculative Philosophy*. Nobody amongst you is likely to have remembered, even if he has ever read, that paper. It was a mere sketch. But since it expressed a sincere effort to state the theory of truth wholly in terms of an interpretation of our judgments as present acknowledgments, since it made these judgments the embodiments of conscious attitudes that I then conceived to be essentially ethical, and to be capable of no restatement in terms of any absolute warrant whatever, I may assert that, for a time at least, I did seriously struggle not only to be what is now called a pragmatist, but also to escape falling into the clutches of any Absolute. When later, however, I fell, and came to believe, as I now steadfastly do, that it is one function of the truth to be, amongst other things, actually true, I do not think that I ceased to be, in a very genuine sense, still a pragmatist, although no longer possessed, perhaps, of what Hegel would have called the pure agility which I then used most earnestly to cultivate. I still am of the opinion that judging is an activity guided by essentially ethical motives. I still hold that, for any truth-seeker, the object of his belief is also the object of his will to believe. I still contend that the truth cannot possibly be conceived as a merely external object, which we passively accept, and by which we are merely moulded. I still maintain that every intelligent soul, however confused or weak, recognizes no truth except the truth to whose making and to whose constitution it even now contributes, — no truth except that which genuinely embodies its own present purpose. I earnestly insist that knowledge is action, although knowledge is also never *mere* action. I fully accept the position that the judgment which I now make is a present reaction to a present empirically given situation, a reaction expressing my need to get control over the situation, whatever else my judgment may also express. I fully accept the position that the world of truth is not now a finished world and is now in the act of making. All this I accept, even although I may nevertheless

appear to be bound, by reason of my other convictions, fast in the chains of absolutism. All this I daily teach, even while, as a fact, my only final hope, as a seeker of truth and as a human being, is in the eternal.

At all events, however, now that I can say all this, perhaps it will not seem to you as if, when I undertake to discuss the relations of the principles of conduct to the theory of truth, I shall be doing so without any comprehension of the meaning and the human interest of pragmatism. As I said at the outset, we are totally, all of us, more or less pragmatists. The question is solely one regarding the due place of that side of our doctrine in the whole organism of our convictions.

## II.

Without expressly expounding or criticising the opinions of anybody else, although of course without attempting to be original, let me first try to state a doctrine that, according to my conception of the matter, emphasizes, as fully as I am able to emphasize, the motives upon which I suppose pragmatism to rest. Then let me try to explain why I believe that this view of the nature of the knowing process must be, not merely set aside (for within its limits it is, as I conceive, a partial statement of the truth), but supplemented, so that it may be aided to state the whole truth.

To begin, then, the exposition of what I take to be the spirit of pragmatism, — thinking, judging, reasoning, believing, — these are all of them essentially practical activities. One cannot sunder will and intellect. A man thinks about what interests him. He thinks because he feels a need to think. His thinking may or may not be closely linked to those more worldly activities which common sense loves to call practical. But the most remote speculations are, for the man who engages in them, modes of conduct. As contrasted with other men, the thinker, so far as his thoughts do not directly link themselves to the motor processes usually called practical, appears, when viewed from without, to be an inactive person. An anecdote records how a servant woman in Darwin's household ventured to sug-

gest that the old gentleman must be so delicate as he was in health because, as she said, he lacked occupation, and only wandered about looking at his plants, or sat poring over his papers. Whether the anecdote is true or not, the thinker often seems to casual observers to be inhibited, held back from action, hopelessly ineffective. But this appearance we know to be but a seeming. The thinker plans motor processes, and in the end, or even constantly while he thinks, these processes get carried out. The thinker makes diagrams, arranges material objects in classes and in orderly series, constructs apparatus, adjusts with exquisite care his delicate instruments of precision ; or he takes notes, builds up formulas, constructs systems of spoken or written words to express his thoughts ; and ultimately, in expressing his thoughts, he may direct the conduct of vast numbers of other men, just as Darwin came to do. Meanwhile, even if viewed from within, from his own conscious point of view, the thinker's ideas are not mere objects of contemplation upon which he passively gazes. They are known to him as his own deeds, or at least as his plans of action, whose presence to his mind is determined by a series of acts of attention, — of acts, too, which are inseparably associated with tendencies to use words or other symbols, to arrange external objects in orderly series, to handle his instruments, to control the material objects which concern him, and inwardly to affirm and to deny. And even affirmation and denial have typical outward expressions in conduct. A thought which has no conscious reference to a deed, which involves no plan of conduct, which joins nothing together that was so far divided, which dissects nothing that was so far whole, which involves no play of active attention from object to object, which voluntarily asserts nothing, and which denies nothing, which neither accepts nor rejects, but only passively contemplates, is no thought at all, but is a vacant staring at nothing in particular by nobody who is self-conscious. Thought, indeed, often involves a temporary suppression of outer conduct, for the sake of considering plans of conduct. But plans of conduct, so far as they are not yet outwardly expressed, are known to our inner consciousness only when possible deeds are begun, but are more or less completely suppressed as soon as

they are fairly initiated, — and the passage to the outward expression of thought is not due to the appearance of a new sort of consciousness, which alone is to be called volitional, and which, as volitional, is to be distinguished from every intellectual process. No, the transition from thought to externally significant conduct is rather due to the removal of certain inhibitions. These inhibitions, so long as they persist, keep the thinker from letting those activities which he inwardly rehearses, go free in the form of outwardly manifest words, of arrangements of external objects, and of expressive bodily attitudes such as are those of affirmation and denial.

For the rest, you have only to observe the motor activities of any vivacious disputant or lecturer who freely expresses his thought, to observe how intensely practical are the attitudes in which even decidedly abstract thinking processes inevitably display themselves, so soon as such inhibitions are actually removed. The vivacious disputant or expounder points out imaginary objects with his extended forefinger, and imitates their contour, their movement, their arrangement, their inner structure, by an elaborate display of gestures. His pointings are indices of his subjects; his mimicry portrays his predicates. He affirms by pounding with clenched fist against the palm of his other hand, or upon his desk. Or, again, in case of his more abstract and less contentious assertions, he perhaps gently lays his forefinger across the palm of the opposing hand, or lays it upon the forefinger of this hand, thereby quietly, but impressively, showing you how he has learned to lay his finger upon the very truth itself. He denies by means of gestures of avoidance, of aversion, or of destruction. He harmlessly, yet in a spiritual sense seriously, threatens you, his opponent, with frown, with glittering eye, with shaking fist, with attitudes of defiance, or of crushing intellectual hostility. He invites you, if you are nearer to him in opinion, by winning gestures to come to his embrace. If the controversy is vigorous, then as he affirms or denies, he clenches his jaws and shows his teeth. Or in scorn perhaps at your errors, he makes the well-known but less marked facial gesture that Darwin describes as the act of slightly uncovering the canine tooth on

the side towards the enemy. If he becomes very calm, pursuing in his thought extremely abstract and elusive truths, his eye, or his pointing hand, begins to search out small or distant objects. I know a distinguished public lecturer who, whenever his topics grow problematic, follows cautiously with his eyes the lines where the wall and ceiling of the room meet, then perhaps lets them run down the corner of the room, where the two walls meet, and then calmly announces in words the result of his quest. I remember an aged and optimistic philosopher, now dead, whose every expository period was wont to begin with the suggestion of a problem, but to end with its often highly abstract, yet always triumphant solution. His thoughtful and extremely mobile countenance was a mass of wrinkles, which time and the defense of the truth had worn. As each new sentence set out upon its lengthy course, and as the problem grew intense, this venerable thinker's facial wrinkles used to twist into a marvelous and often terrifying lack of symmetry. One wondered whether those tangled curves could ever again acquire a restful aspect. But as the end of the sentence approached, they always, at the fitting moment, triumphantly passed back again into a beautiful symmetry, and through this blessed relief of tension the evenness of the truth was at the close made quite manifest to everybody present. I do not indeed well remember what this philosopher's opinions were, so busy was I wont to become in watching his countenance. But I gathered that his optimism was a sort of inner comment of his consciousness upon his ceaseless joy in discovering how every muscular strain, whereby his facial wrinkles could possibly be complicated, was certain in the end to pass over into symmetry and quiescence. As he had for many years carefully experimented upon this topic, and as no twist of his wrinkles had ever yet failed to yield to this mode of treatment, he seemed to feel very sure about the universe. The subjects of his assertions might be as contorted as fortune chanced to make them; his predicates were sure to consist of symmetrical curves of relief, and so of peace. Such, you see, was the pragmatism of this venerable sage.

What such seemingly trivial facts illustrate holds true, in

principle, of at least one aspect of the inner life of all of us. Our thinking is indeed from moment to moment a consciousness of our adjustment to our present experience. This adjustment is our own act. We perform this act, not capriciously, but because we find therein our conscious relief, our movement in the direction of the fulfillment of our own purpose. Unless I am interested in expressing myself, in actively reading my own purpose into my world, you shall not induce me, by any device, to know or to express any truth whatever about what is not myself.

### III.

These, then, are considerations which suggest an attempt, not only to define our thoughtful consciousness in essentially practical terms, but also to define the objects about which we think, yes, the very reality of which we are conscious, in similarly pragmatic fashion. For, in the first place, although objects of experience seem, from a well-known realistic point of view, to be given to us whole, with all their properties and relations, as objects independent of our will, and so as objects in their essence extraneous to our consciousness, — still an equally well-known critical method of reflection, when linked with the pragmatism whose basis we have now expounded, tends to destroy this realistic seeming. For what is directly given to us at any moment (that is, what is immediately and *merely* given to us) is simply the fact of our special momentary need for further insight and for further action. What at any moment we actually see, what we clearly think, what we make out of the given, that is not merely given to us, but is also *ours*, — not ours as our mere caprice, independent of the given need, but ours as what Professor Dewey rightly calls our response to the situation, our furnishing of the needed predicates, our recognition of the object, our adjustment of deed to present want, in brief, as I should say, our expression of ourselves under the conditions.

Hence it is not true that we merely find outer objects as independent of our will, and as nevertheless possessed in all their independence of their various predicates, qualitative, relational, substantial, individual. We find them possessed of characters,

only in so far as we ourselves coöperate in the construction, in the definition, in the linkage of these very predicates, which we then ascribe to the objects. Since, to be sure, our need of thus defining our objects is indeed given to us, as this brute fact of our momentary need itself, as the bare datum that we must indeed act in order to succeed, and since, in case we are said to come to an understanding of our objects, we succeed in dealing with our need by virtue of just these special acts of ours, that is, by virtue of making these assertions, of ascribing these predicates, of living out just these beliefs,—since, I say, all this is true, we are accustomed to say that it is the object itself whose nature forces upon us just these predicates. For, in order to relieve our need, we are indeed constrained, in general, to define our object thus and thus. But, as a fact, nothing can force you except your own need. If you have no interest in the object, its supposed independence of your will can impose upon your will no recognition of this its barely external nature. You observe what you need to observe ; and in observing you partly fulfill your purpose by diminishing your need ; and what you find, as you thoughtfully review your observations, is the expression of your own thoughtful nature in the object,—an expression always conditioned by your need, but also always conditioned by your devices as a thinker, by your categories, by your modes of activity. For instance, does your observed object, as you dwell upon it, come to be possessed for your consciousness of definite numerical complexity ? Then that is because you have needed to count, and, counting, have not merely found, but have constructed, both your numerical predicate and the relation of one to one correspondence between the constituents of your predicate and the attentively seized constituents that you now indeed find in your object, but find only in so far as your need has led you, dwelling upon these elements, to divide by your attention what sense furnishes to you only in that problematic confusion which constituted your very need of counting. Thus counting is an expression of your purposes ; and sense, when uncounted, shows you no definitely numerical groups ; but, at best, furnishes the stimulus and the support of the need to count. This case is typical.

What holds of numerical complexity, holds of every intelligible aspect of experience. What you find, then, as barely given in your experience, are needs that can be thus or thus met, tensions that can be thus or thus relieved by the response of your intelligence, and objects that possess a meaning, only in case you behold in these objects the expression of your own work in meeting your needs. As Kant said, you can get nothing defined and intelligible out of your object except what you have put into it. Yes, as Kant might have said, you get nothing defined and intelligible out of your object except when you merely reflect upon what even now you are putting into it, by active responses to stimuli, that is, to needs,—responses which tell you what your object is only by letting you see what just now you must do about your object. To be sure, since your need at every point accompanies, and so moulds your deed, you never feel free to think this or that of your presented object. For you are bound fast by your own need. The object is therefore yours to construct, but not yours to create ; and this again is what Kant said. And this is the aspect of the object which realism falsely emphasizes. My need is the controller of my will ; though even my need, although given, is not given as an object independent of my will. When realism asserts that, independently of me, my object is possessed of the characters that my intelligence is forced to find in it, the truth of the realistic assertion, as it is usually formulated, seems to lie mainly in the validity of the social judgment that anybody, possessed merely of my needs and of my present resources, would perforce define his world just as I now do mine. This social judgment is human ; but it is itself only the expression of one of our deepest needs, namely, the need of companionship, the need to acknowledge the presence of our fellows and to sympathize with their needs. Apart from this social basis of realism, the ordinary realistic interpretation of experience would turn upon the most barren of fancies. The object is never merely given to me, but is given only as the result of a process. It is that which, through my own construction, I find as the momentary expression of my own effort to satisfy my needs. Now sunder that which I thus find from that constructive life whose



expression it is. Say that not only before I needed, but before anybody needed, and quite independently of my need, or of any need, there was and is that which my need led me to find as my construction. To say this is realism. And this is what I call a barren fancy, because, when one looks closer, one finds that to say this becomes needless.

Over against such realism, the pragmatism that we are now defining rightly insists, I think, that what you find in experience is what it is found to be, namely, an object in so far as it is characterized through and in your thoughtful deeds.

#### IV.

So far we have, then, the statement of the foundations upon which rests, if I rightly understand the matter, what I shall call pure pragmatism. This pure pragmatism, as we shall soon see, is held unmodified by nobody. Yet there exist those who often speak as if this were their whole doctrine of knowledge. Let us, then, for the moment, take this doctrine as it stands, and try to be for a moment pure pragmatists. If what we have just stated shows the nature of our thought and of its objects, what room is there left for any form of absolutism? This fluent realm of transient meanings, where whatever is merely found, as brute datum, is nothing more than a query, a problem, a need, while whatever is both found and characterized, that is, whatever is experienced as a whole, intelligible, present object, is inevitably an at least partial fulfillment of a present need,—well, to what universal laws of thought or being can such a realm conform? Can such a realm be the expression of any truth that is either eternal, or absolutely authoritative? You have your needs, I mine. We both change our needs. What youth hopes is not what age demands. The morning and the evening bring different needs. Let us be pluralists. If, like my venerable friend, any one of us is in need of such objects as, when conceived, give his facial wrinkles symmetry, and his soul peace, and if, by chance, he can uniformly get what he needs, —well, what he gets is his truth. Who amongst us has any better truth? Who wants anything but a prevailing triumphant state of mind? If thinking

gives us such a state, we call our thoughts true. Has the word 'truth' any universal meaning whatever except this? When I say: "This belief of mine is true," what can I mean but: "This belief of mine just now meets my conscious needs"?

As soon as we raise this question, we all indeed begin, even as pure pragmatists, to observe, just a little uncomfortably, one need which we have indeed already mentioned, but which we have not yet explicitly defined. It is the need that I before called the need of companionship, the need not only of thinking for ourselves, but of finding somebody who either will agree with us, or else at least, to our mode of thinking, *ought* to agree with us. This need also is a human, and so far, in our account, is an empirical fact, a brute datum, like our other needs. Perhaps it has no deeper meaning than has any rival need of our wavering wits. But, at all events, it is a need that goes along with his other interests to make the philosopher. For a philosopher, however much he may love to speak with tongues, becomes uncomfortable if he chances to observe that he seems to be edifying only himself and not the brethren. My venerable friend aforesaid obviously desired that we who listened to him should all somehow learn to wrinkle our faces just as he did and just when he did, and should so attain the same blessedness as that which he enjoyed. I notice a human weakness of a similar sort even in the most stubborn pluralists, — even in those who come nearest to being pure pragmatists. I find, namely, that a pluralist, when he criticises me, always wants me to come into unity with him. And I notice that this weakness also shows itself in a very marked and, as I think, partially justified disposition to expound pragmatism in forms which are not altogether pure. There are those who often speak as if they were pure pragmatists. Yet their doctrine has always another side; and the existence of such additions as are often made to doctrines that at first seem to be pure pragmatism shows, I judge, that there is some difficulty involved in leaving the problem of knowledge just where our previous exposition has so far left it. Something is still lacking to complete our picture of what we call truth. For consider: You shall open some accounts of modern pragmatism which, to judge by some of the

expressions used, seem to be attempts at pure pragmatism. Yet, as you read further, you shall learn that philosophers ought to take especially careful account of that greatest of modern discoveries, — the doctrine of evolution. Everything is a product of evolution. Must not thought be such a product? Obviously it must. But now, as you further learn from such expounders of pragmatism, one great merit and recommendation of such pragmatism as I have just tried to illustrate is that it shows how, not only thought, in general, but the special categories of thought, categories such as truth, objectivity, reality, are all products of evolution, and of a process of evolution which is determined by need, by stimulation, by the environment, by the growth of our organisms. What we believe thus appears as a result, like our other reactions, — like fire-making, like engine-building, like money-getting, like art, like the family, or like eating and football playing, — a result brought about by the character of our organisms, by the environment that plays upon us, by the desires that burn within us. Thought and its inner products show you, much as these other incidents of evolution do, reality in the making. The processes of thinking, the acknowledgment of these and these objects as real, of these and these principles as true, the toils of science, the warfare of the creeds, the speculations of the philosophers, — these are all like the cat's pursuit of the mouse, or like the kitten's flight after its tail, simply forms of adjustment to the environment. It is, then, a great recommendation of pragmatism that it comes into line with natural history, that it drops the methods which were common in 'preëvolutionary' ages of thought, and that it conceives truth, being, logic, and all the rest of the objects of philosophical reflection, as, like eating and living, mere incidents of that well-known universal process of evolution. You accept evolution. Well, then, pragmatism is a corollary of evolution. Thus are philosophy and science to be reconciled. Now all these observations about the relations between pragmatism and the doctrine of evolution may have their great value in another context. I am not doubting their intrinsic interest. What I inevitably note is, however, that when a man talks in such terms, he seems to me not to be any

longer expounding a pure pragmatism. I do not blame him for this. But I do wonder that he will often speak as if he meant to be a pure pragmatist.

The evidence for pure pragmatism, if there is such evidence, must rest on what you now can observe as to your present thought and its objects. The evidence for the doctrine of evolution must rest upon beliefs that relate to vast numbers of objects such as are supposed somehow to have existed long before you or I or any human being could have been there to acknowledge their existence. Tell me first that you are a pure pragmatist, and that you accordingly believe whatever you just now find it needful for you to believe ; and I can, up to a certain point, understand you. Then add that, having read modern books, or having worked in the field, or in laboratories, you just now find it needful to believe in something called evolution, and accordingly to believe in a world that existed before all human beings existed, to believe also in an object called an organism, in an object called an environment, and in various other such conceived objects, and still I follow you. But tell me that you are a pragmatist *because* pragmatism logically follows from the truth of this doctrine of evolution, and then indeed I fail to see what you mean. For when you say : "The doctrine of evolution is true," I ask you : "In what sense true ?" If you reply : "True in the pragmatist's sense, viz., as the object of my present conscious and constructive thought, which conceives evolution as a truth, because just now I need so to conceive it " ; — well, then you state your pragmatism first, and define your belief in evolution solely in terms of your pragmatism. How, then, can this belief in evolution, — a belief which is a mere instance of your pragmatism, — lend back any of its borrowed authority to furnish a warrant for your belief in the very doctrine called pragmatism, a belief which you presuppose in expressing your evolutionary creed ?

But, on the other hand, if you say : "The doctrine of evolution, as a universally valid result of modern science, is to be accepted, not in the pragmatist's sense at all, but because this doctrine, whether we happen to need to believe it or not, is

true"; well — then you have once for all either abandoned, or else have profoundly modified, your pragmatism. You have, perhaps, become a realist, or maybe an absolutist. In any case, your belief in evolution can then furnish no warrant for your pragmatism; because in that case you have denied pragmatism in order to define the sort of truth that you attribute to the doctrine of evolution.

Why, then, does a pragmatist, who often speaks as if he meant to be a pure pragmatist, nevertheless boast of his fidelity to the doctrine of evolution? Because, I answer, despite his occasional speech as if he meant pure pragmatism, he is not a pure pragmatist. For all his pragmatism, he does not quite like to confess that he is an evolutionist *merely* because he just now feels the personal need of being an evolutionist, precisely as other people may feel their need of being Mormons, or of believing in witchcraft, or of squaring the circle in some particular way. And, as a fact, he is not an evolutionist in the sense of such pure pragmatism. He is an evolutionist in the sense of supposing not only that he does just now need to believe in the doctrine of evolution, but that he *ought* to need so to believe. And he strengthens in himself this sense of the ought by reflecting that he lives in an evolutionary age, and that the experts have settled the question in favor of evolution, and that, by appealing to this well-known presupposition, he can get hearers for his doctrine of pragmatism. For a pragmatist, I repeat, is a companionable person; and, moreover, he rightly thinks that he ought to be so. He is not content to see for himself that his opinions have merely the pragmatic sanction; he wants us to agree with him about this very matter. In fact, he needs that we shall find ourselves needing what he needs.

Two motives that tend to modify pure pragmatism appear even in this brief sketch of its complications. Even a pragmatist who wants to be a pure one has an inevitable conception, not only of what he now needs, as he utters this judgment, but of what he ought to need in order to get a warrant for the judgment. And he also has a conception of the need of finding companions who shall be persuaded to agree with him, or who at least ought to be persuaded. Pure pragmatism would be, after all, a lonesome

kind of doctrine. I need, and need just now, to assert myself thus. Hence, I judge thus. Hence this is true for me. How obvious all that is! Yes, but how barren, unless I can add: "My need is the human one; it defines a ruling, a standard need. I *ought* to need just this assertion of just this object in view of this situation. I ought; you ought; humanity ought, to characterize this object thus." Only when I can speak thus do I feel at home. Hence a natural fondness of the pragmatist for using terms that suggest appeal to current popular opinion. Evolution is to-day not only a result of science; it is a catch-word, a name for a celebrated 'merger' of all sorts of securities. If you only join the two words 'social' and 'evolution' in your speech nowadays, everybody at once listens to find out what you have to say. Hence, if you want really to feel at home with even your innermost reflective doctrine, you must characterize it as having an important bearing on the structure of society; and you must show it to be a corollary of the doctrine of evolution. Then only are you quite sure of it!

But, then, in what sense do these perfectly normal and natural tendencies inevitably modify your pure pragmatism? I reply, on one side, they illustrate the pragmatist's main thesis; on the other side, they indeed do modify it. They illustrate it; for this tendency to define pragmatism in terms of evolution is itself the expression of an inner need of the pragmatist who makes the evolutionary appeal. This fondness for companionship, which shows itself in a tendency to confirm pragmatism by a use of popular catch-words, notwithstanding the obvious fact that the only logical basis for pragmatism, apart from purely expository illustrations, must be a purely individual and interior reflective process, whereby we notice what happens when we judge,—this fondness for social confirmation, I say, is again the expression of one of the needs of the pragmatist thinker, who all the while teaches that truth, for him, is merely the result of his need for control over his own experience.

Yet if these tendencies, on the one hand, illustrate pure pragmatism, on the other hand, they, with equal obviousness, modify the form that it assumes in the consciousness of the pragmatist him-

self. He needs,—but *what* he needs is to recognize that his truth is something *more* than the result and expression of his present need. He judges of his objects as he needs to judge; but one of his needs is to be satisfied that his need ought to be what it is. He expresses himself as he just now is; but he aims to express himself so that his fellow may also be one with himself. Inevitably, therefore, the very need of the moment needs control by another than itself, yet by somewhat that is not alien to itself. It needs control; for so soon as it recognizes that it is logically no better than any other possible will to believe, as for instance, no better than a will to believe in witchcraft, or in fairyland, it recognizes its own emptiness. It needs, therefore, control by some other than itself; for a valid principle that should determine what, under given conditions, is the right and rational need, is not identical with the passing content of any merely momentary need. But when the need of the moment thus needs to be controlled, the control that it seeks is not that of a realistic object, independent of itself, but that of some universal expression of need,—an expression that simply makes conscious what the need of the moment is trying, after all, to be, namely, a rational and binding need. Hence, at the moment of expressing one's pragmatism, one loves to appeal to well recognized objective truths,—to evolution, to common sense, to whatever is likely to seem universally valid.

## V.

We have thus prepared the way to state wherein our first statement of pragmatism has to be modified, even in order that its own need should be expressed.

"I believe what now, with my conditions, and my needs, my judging activity constructs as the present truth for me:" there is one form of the assertion of pure pragmatism. All this, we have said, is obvious and barren. Why barren? Because one of the things that I seek, when I judge, is to express something that shall have some value as a standard. A judgment is not only a construction, but a resolve; not only a response, but a precept; addressed possibly to other men, to myself at other times, to whatever reasonable being there may be who has wit to under-

stand me. It not only says : " I believe ; " it says : " This is to be believed. " The one who judges wills not only his own state of mind, but other states of mind, which he conceives to be constructed in accordance with the rule laid down in his judgment. Unless he does this, he does not judge ; he merely croons, or wrinkles his face, or plays with his mental images. Whoever judges is a pragmatist ; but, as we have already seen, he means to require you to believe him. And therein he becomes more than a pragmatist.

And so, in case you first judge, and then as a pure pragmatist observe that your judgment is merely your present reaction to this present conscious situation, the very observation, if it is sufficient to your mind to characterize your whole process of judging, at once takes the whole life out of what was but just now your assurance. That is precisely what I do not want my present judgment to be, namely, this momentary feat of attentive agility. I want it to have authority. Suppose that I assert something, and that thereupon my critical neighbor pityingly says : " Yes, no doubt *you* think so. " Why may this retort seem insulting ? Because it pretends to reduce my judgment to a mere attitude of my own. Now that is just what I do not want my opinion to be. But suppose that just this retort is the *only* one that I am able upon reflection to make to myself. Well, then indeed I am a pure pragmatist. But hereupon my judgments lose all their deepest interest. They do not meet the principal need that they all the while believed themselves to be meeting. It is as when one wakes from a dream-conversation and finds himself talking alone in the darkness. He was but just now responding to the situation according to his insight. He hereupon observes that both situation and response were merely his own momentary datum and construction. How lonesome is this new insight ! Now pragmatists, indeed, do not usually feel lonesome. They are excellent companions and very fond of rational society. We have seen why they do not feel lonesome. It is because, like others, they take their judgments about evolution, society, humanity, the good, and the like, to be possessed of a character that no pure pragmatism could express. Having



first believed these judgments in the ordinary way, namely, as having an authority which is not of the moment, they then add to all these insights that of their pragmatism; and their pragmatism now seems to them an interesting addition to the rest of their natural history. And so at moments they can speak as if this were a pure pragmatism. This, however, they never really mean.

"But," you may object, "in answering thus the contention of the pure pragmatist, one only illustrates the more, as has already been admitted, the pure pragmatist's own position. For this need to give our judgments authority, this longing not to be merely expressing ourselves as now we are, but to be laying down a rule for ourselves at other times, and for other selves, what is this but one of our present and conscious needs? Do we get authority by merely willing to have it? Do we legislate for other individuals merely by longing to legislate? What have we, after all, when we judge, but the resolve to speak for others than ourselves? Is the resolve the accomplishment, except precisely in so far as it accomplishes itself in just the present judgment?"

You see the point that we have reached in following our problem. The situation is indeed baffling. If the pure pragmatist speaks to us, and so speaking asserts himself, he speaks as one having authority. He may talk of evolution, or he may otherwise bring his doctrine into line with what he conceives to be natural facts or general human concerns and beliefs. He will talk of such matters as if he were a realist, or an absolutist. And there is one thing that at the very least he will assert, namely, that his account of the process of judgment, and of the relations of the judgment to its objects, is a sound and true account, which everybody who rightly examines the process of judgment will see for himself to be true. As a teacher, then, the pragmatist is much like any other professor. He has his little horde of maxims; he proclaims the truth; he refutes errors; he asserts that we ought to believe thus or so; and thus lays down the law as vigorously as do other men. But, on the other hand, if the pragmatist, trying for the moment to be a pure pragmatist, reflects upon all this that he has uttered, and upon all this labor

that he has done under the sun, then he must observe that in case his own view is as a pure pragmatism correct, he has instructed nobody at any time but himself as to any genuinely common truth; since, at every instant, he has merely been assuming fluent attitudes of his own, attitudes precisely as significant as were my venerable friend's symmetrical wrinkles. For upon each occasion of thought, he has faced an inner situation of his own, and has opposed thereto a certain gesticulation called a predicate, and has therein found a certain triumph of what some would call his reason, while he now might well merely call it his own state of mind.

These, then, are the two aspects of the situation of the pragmatist himself. If the pragmatist has taught us a truth, then he has done something more than assume his needful inner attitudes. But if he has merely adjusted himself to his conscious environment by means of his own inner mental construction, then he has instructed nobody and has refuted nobody; and has said nothing that has any genuine meaning for anybody but himself. Accordingly, even when he has contradicted absolutism, in uttering such a contradiction he has merely assumed an anti-absolutist inner attitude of his own. Hence that attitude has involved no refutation of anybody else. The pure pragmatist, therefore, contradicts nobody but himself when he asserts that other people, say absolutists, are wrong. For none of his assertions can relate to anybody but himself as he happens to be when he makes them. So much, then, for the situation of the pragmatist, just in so far as he tries to be a pure pragmatist. But our situation, as his critics, seems to be for the moment at least decidedly complicated. For we can criticise him only by pointing out to him conscious needs that his account of the judging process somehow does not meet. If these needs are not his own, we have not refuted him. If they are his own, then their presence refutes him only because his doctrine, namely, the doctrine that a true judgment is such by reason of its success in meeting the needs that it attempts to meet, is illustrated by our proposed refutation.

How shall one sum up the meaning of these complications? They are not arbitrary inventions of anybody. They belong to

the very essence of the situation of any finite thinker. I know of no way but to accept the conscious situation that we find, as well as to observe with the pragmatist that all this our finding is inevitably no merely *passive* acceptance. When we *both* act and reflect, both observe and construct, are both pragmatists and theorists, what we make out about the meaning of all this fluent process of knowledge is to be summed up, I think, as follows. Hereby our pragmatism will be, not abandoned, but modified.

## VI.

I have spoken of the need for companionship in our judgments as itself merely one of our given and human needs. But my illustrations have brought to mind, I hope, what I now venture to state as a general principle. It is this : When we feel the need of appealing to somebody else, or to ourselves at other times, in order even to express our opinion that our judgments have a warrant, this our need for companionship is precisely coincident with our need to regard our judgment as true. When the cat pursues the mouse, she presumably does so because she needs the mouse. But if she consciously asserted : "This is a mouse," she would need another cat, or some other critic of truth, as the being who ought to agree with her as to the truth of this assertion. I react to my environment as this present self. But if my reaction is a judgment, it is not only a bit of pure pragmatism ; it is an appeal to a judge of truth whom I conceive either to be judging as one ought to judge, or else to be in the wrong. That I feel the need of such appeal, is itself at any moment, indeed, a mere datum, like any other momentary need of mine. But it is just this need that constitutes me a rational being. Let a pure pragmatist undertake to deny this assertion if he will. In denying he will merely assert that I ought not to make it ; and in so denying he will appeal to a sound and rational mode of judgment passed upon consciousness in general. As for his own pure-pragmatism, he either judges himself that it is a true account of judging in general, or he is no believer in his own doctrine. But if he is a believer in his own doctrine, then he judges that he characterizes our judging consciousness as another person than his present self ought to characterize it.

In brief, to believe that my judgment is true, is to believe that another point of view than my present point of view, in case this other point of view is what it ought to be, actually confirms my own judgment about this object. This other point of view, however, is a point of view that relates to the same object, or else it could not be conceived as confirming my judgment about this object. Whoever believes seriously in the truth of his judgment, not only explicitly makes this present judgment, but implicitly believes two further things, namely : (1) That there is another conscious point of view than his own, and a point of view from which this same object is viewed ; and (2) that this other point of view, without being a mere copy of his own, and without his own being a mere copy of it, is so related to his own point of view that each ought to agree with, to supplement, to enlarge, and to confirm the other. Now while the need to assert the reality of this other point of view is, indeed, one of the needs of the present judging consciousness, it is utterly vain to say that this need is fully *met* by any fact that the present judging consciousness of a finite being itself now constructs and finds present. For if what I find is for me merely my present opinion about my present object, and if I view this opinion merely as my present construction, then I simply do not view my opinion as true at all. I then view it merely as my state of mind. But if I view my opinion as true, I demand that another than my present self shall accept this opinion. This is the very nature of the truth-asserting consciousness. Such a consciousness lives in the light of another than itself. Yet it conceives this other than itself not as a realistic outer and independent object, but as a constructive self, like itself, yet other than its present self,—its own companion, because its own extension and wider expression. The judging self conceives itself as not fully expressed in this judgment, but as needing its own *alter ego* to aid it in its own expression. Herein the cognitive reactions of finite beings are different from other reactions. They seek, indeed, their own ; but they seek it not merely *as* their own. They view themselves as essentially partial functions in a process whose unity is subject to one rule, the *ought* of the truth-seeking activity, whose object is this iden-

tical object, but whose variety is the actually required variety of points of view regarding this one object.

If this is of the essence of the judging consciousness, then all that pragmatism asserts is, indeed, as far as it goes, valid ; but a pure pragmatist is nevertheless self-refuting. We must be pragmatists, but also more than pragmatists. For if I need what is not my present self, if I need another than the present judging consciousness, in order to make it possible for me to assert the truth of my judgment, then, although my predicates are, as pragmatism asserts, the constructions of the present moment, still the truth of my judgment is not a mere construction of the present moment, but belongs to the unity of the various constructive processes of momentary selves, all of which are various expressions of the purpose which each one of them shares, so that, despite their variety, their selfhood is one.

Yet with this result we cannot pause. Our account is still incomplete. The assertion : " My judgment is true," amounts so far to the judgment : " I have companions, other selves who view the same object from other points of view, — but who, as others, are still so one with myself that despite their variety they still *ought* to agree with me, since my *ought* is theirs, and since we are but various functions in the unity of one knowing process." All this implies the notion of the *ought*, a notion without the consciousness of which my present judgment, as we have seen, becomes even for myself, in case I reflect, a vain crooning, a mere wrinkling of the countenance, an empty pounding of my desk, a helpless shouting at nobody and about nothing. But this ought, what can it mean ? A realist would say : " It means that if you judge falsely about the independent object, the independent object will perchance eliminate you as an unfit variation from the evolutionary process, or will in any case catch you and hold you to facts, squirm though you may." This realistic view, so far as it is sound at all, obviously denies the very independence which it pretends to attribute to the object. Nothing can refute me but an experience that is in unity with my own, and that is a function of the very selfhood which is expressed in me. So realism must be translated into conscious, and so, apparently, into directly

pragmatic terms. Plainly the *ought* means that my judging activity has a purpose that goes beyond my present partial expression. In other words, my present judging activity has a place in a process of experience such that if my judgment, despite its present success, still on the whole and in the end fails, this process, of which the judgment itself is a part, contains somewhere conscious contents which will show my partial failure. But since no self whose purposes are foreign to mine, or are in any way such as not to include mine, can possibly observe my failure in judgment, or can be conscious of what I mean and how and where I fail of my own purpose, it follows that to say: "I *ought* to judge thus or thus" is to say: "I myself, in a more fully enlightened expression of myself, am so constituted as to detect whether my judgment wholly fulfills or only partially fulfills my purpose." But to say: "We companions, who judge together the same object, we are all subject to the same ought," is therefore to say: "All our various selves are functions not only one of another, but of one conscious Self that somewhere and somehow pragmatically constructs an expression of itself in the light of which our various partial expressions are judged." Such a self I need just in so far as I need my judgment to be true. Such a self is real if my judgment has either truth or falsity.

But now, regarding any grade or type of socially communing selves that might have reached, from various points of view, such judgments regarding their common objects as rightly expressed so much of their *ought* as had yet come to their own consciousness, the same question that we have now repeatedly asked about our present selves would arise afresh. You do not escape the needs which pragmatism feels by merely multiplying the judges, while leaving them all finite. Is their view of the *ought* the view that they *ought* to hold? Are their conscious ways of judging this object only the expression of their social, but still relative, temporary, passing, unstable point of view? Mere multiplicity of opinions alters not in kind the difficulty that first arose in our path as we studied the single momentary judgment. I appeal to my companions to confirm my judgment in case I believe my judgment to be true. If they disagree, I appeal to

our common *ought*, that is, to our consciousness of our one selfhood. But even if my companions all agree with me, and even if we all believe together that we ought to agree, we shall no sooner see this to be our common pragmatic attitude towards our experience than we shall need, in order to maintain that our common judgment is actually true, to face the further question : "Is there possibly any other point of view than ours regarding this object, — and one which renders ours in any sense false? Is there any ought that a still more inclusive view of our common purpose would see to be still higher than our ought?" If there is, then our common judgment is merely our present reaction, which is not true even of its own object. We shall need, I say, need in the pragmatic sense, to seek for the answer to these questions. The penalty of not being able to answer them will simply be that we shall have to call our intellectual constructions, so far as we shall then have reached them, mere attitudes of ours, and not any genuine truths at all. For truth is conformity to an ought. And a true ought is one that from every point of view confirms or refutes. Are such questions in themselves answerable? Does the real world contain anywhere the experiences that do answer them? Is there any final ought of judgment at all? Upon this question depends the whole issue as to whether you and I ever make any true judgments at all, or for that matter, whether we make any false judgments. Truth and falsity are indeed relative to insight, to experience, to life, to action, to the constructions which pragmatism emphasizes. But unless these constructions are what they ought to be they are not true. And unless there is an objective *ought* they are not even false. But if there is a true and a false, then there is a view for which the ought is known, — known not as simply a single, transient, unstable, chance point of view, but as the object of one self-possessed and inclusive insight such that it *remains invariant whatever other points of view you attempt to conceive added to it*. Such an insight would belong to a self that did not fail to include pragmatisms of all kinds, but that simply and consciously *included them all*, in such wise that if you conceived other points of view, other reactions to situations, other judgments added, no change would

result in the characterizations of its object which this self could view as fitting, permissible, and so true. For the ought is either a real ought or it is nothing. A judgment has its place in a complete system of truth, or else it is not true.

Now when we declare that our judgments are true, we appeal to such a self to confirm them. Of such an appeal our desire for social support and comradeship is merely a special instance, a fragmentary example. When we doubt whether our judgments are true, we doubt whether such a self does confirm them. When we need to call our judgments true or false, we need to conceive, to define, to address, such a self. If there is such a self, then there is truth. If there is no such self, pragmatism can truly assert nothing, can truly deny nothing, stands in the presence of no genuine reality, and can only continue to be conscious of how it wrinkles its wholly unreal countenance in the echoless void, where its assertions meet no genuine response, have not even any real spectators, and are meaningless both to God and to man, since then neither man nor God exists to fill the void.

But if there is such a self, then for every finite instance of life pragmatism remains a perfectly genuine truth,—genuine as our ceaseless longing for the eternal is genuine,—genuine as love and aspiration are genuine. Everything expresses itself according to its momentary light. Everything finite passes, changes, evolves, asserts itself and resigns itself, utters rules that are sincerely meant to be authoritative, but gives way to the authority of its own higher expression. Everything is practical ; and everything seeks nothing whatever but its own true self, which is the Eternal.

For the Eternal is not that which merely lasts all the time. Only abstractions temporally endure. And they are not the life ; they are either only a dead image, or again, they are only an aspect of the life. That alone is eternal which includes all the varying points of view in the unity of a single insight, and which knows that it includes them, because every possible additional point of view would necessarily leave this insight invariant.

The possibility of such an eternal is, of course, the possibility of the existence, in a genuine sense together, as a *totum simul*,



of the contents of an infinite series of practical and evolutionary processes. I have elsewhere set forth at length my grounds for believing both in the possibility and in the actuality of such an eternal existence. It is not my purpose, in this address, however, to expound a metaphysical theory for its own sake. I have desired merely to indicate what we need when we attempt to make true assertions.

I conclude, then, First: That pragmatism is right in asserting that every judgment, whatever else it may prove to be, is the expression of a present activity, determined by a consciousness of need, is responsive to this need, and is such as this need determines, — in brief, is a constructive response to a situation, and is not a mere copying of an externally given object.

Secondly: That nevertheless, in so far as we ourselves observe that our present judgment has *only* this character of being our present and passing response to a given situation, we find that we need the judgment to be more than this. This need is the peculiar need that our judgment should be not only ours but true.

Thirdly: That this need for truth is the need that there should be other points of view, other actual judgments, responsive to the same situation, in other words, to the same object. These other points of view we first conceive as belonging to ourselves at other times, or to other selves, those of our companions. We conceive that all these judgments ought, despite their diversity of points of view, so to agree as to confirm one another, and so to unite in one system of truth as to characterize harmoniously the same object.

Fourthly: That these various points of view (in order thus to harmonize) and this *ought* (in order to hold for all of them) must be conceived as belonging to, and as being included within, a single self, whose partial functions these various selves are, and whose common conscious purpose defines the ought to which each of the various judgments is to conform. Such a self we need to conceive in order to conceive our judgments as true; and we need to conceive it as having the same sort of embodiment in concrete experience that our present judgment now has.

Fifthly: Meanwhile, in so far as we conceive this self as like ourselves transient, passing, variable, — its inclusive constructive

judgments become once more like our own, not genuinely true, but only special points of view, which determine no genuine ought, and which are mere states of mind, or stages of its experience. Mere magnitude and multiplicity cannot constitute that aspect of consciousness which makes possible a genuine *ought*.

Accordingly, in the sixth place, in order to conceive our judgments as true, we need to conceive them as partial functions of a self which is so inclusive of all possible points of view regarding our object as to remain invariant in the presence of all conceivable additional points of view, and so conscious of its own finished and invariable purpose as to define an ought that determines the truth or falsity of every possible judgment about this object.

Seventhly, and lastly : If there is such an inclusive and invariant self, it is of course complete at no moment of time. It is inclusive of all temporal processes of evolution that could alter our view or any view of our object. Such a self is invariant and eternal, without thereby ceasing at any and every point of time to be expressed in finite and practical activities, such as appear in our own judgments. If there is such a self, our need to make judgments that can be true or false is satisfied. If there is no such self, no judgment is either true or false. The need for the Eternal is consequently one of the deepest of all our practical needs. Herein lies at once the justification of pragmatism, and the logical impossibility of pure pragmatism. Everything finite and temporal is practical. All that is practical borrows its truth from the Eternal.

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## ARISTOTLE'S POSTERIOR ANALYTICS: II. INDUCTION.

IN a former article the general character and presuppositions of demonstration (*ἀποδείξις*), as conceived by Aristotle, were pointed out. It is the aim of science in all cases to discover the 'cause' for the existence of a certain property in an individual thing, or, what is the same thing, to show 'why' the thing cannot but have this property. For science, in the strict sense of the term, consists entirely in the comprehension of the reason why the individual possesses certain properties in common with all the other individuals of the same species. Demonstration is therefore the method by which the particular property found to belong to a thing is proved to be essential to it, in virtue of the possession by the thing of characteristics, which determine that it, in common with other things, must have that property. Aristotle's view of science thus implies that every demonstration proper presupposes that actual things have in them something permanent and unchangeable. It is true that things are found to have properties, the 'cause' of which cannot be determined; but such properties do not fall within the sphere of science.

Demonstration, however, is only one side of the total process of knowledge. It is not self-sufficient, but presupposes that we already in a certain sense have knowledge. For no proof of 'cause' can be given, unless the common and peculiar principles assumed in demonstration are absolutely true. The question therefore arises, how we obtain the principles from which the special sciences start, and which indeed as ultimate cannot be demonstrated by any science. This leads us to the special subject of the present article, the nature of induction, and its relations to other processes of knowledge.

Starting from immediate and indemonstrable principles, demonstration seeks to deduce all the properties which belong to individual things of a certain genus. But these things and properties must be actually known to exist, or there can be no 'cause'

or 'ground' of their existence. There are, therefore, as Aristotle points out, four questions that have to be answered before the special problem of science can be solved: The 'fact' ( $\theta\acute{\nu}\tau\iota$ ), the 'cause' ( $\delta\iota\acute{o}\tau\iota$ ), whether a subject is ( $\epsilon\acute{\iota}\ \xi\sigma\tau\iota$ ), 'what' it is ( $\tau\acute{\iota}\ \xi\sigma\tau\iota$ ). The first two questions are concerned with things and their properties, the second two with the primary principles from which these properties are to be derived, or shown to be essential to the things in question. Strictly speaking, therefore, science ( $\epsilon\pi\iota\sigma\tau\eta\mu\eta$ ) is concerned only with the 'fact' and the 'cause'; for only these are capable of demonstration. We may even say that science proper has to do only with the 'cause,' since knowledge of the 'fact,' though it is indispensable to the demonstration of the 'cause,' does not yield a strictly scientific judgment.<sup>1</sup>

Now, demonstration of the 'fact' consists in showing that a certain property belongs to a thing in common with all the individuals of the species to which it belongs. Thus, we may demonstrate that vines are broad-leaved because they belong to the class of deciduous trees, all of which are broad-leaved. This is only proof of a 'fact'; we have not demonstrated the 'cause,' for trees are not broad-leaved because they are deciduous.<sup>2</sup> We do not assign the 'cause' when we show that one property is the invariable concomitant of another, but only when we show that one property is the necessary ground of another. In demonstrating the 'fact' we have to find a middle term. But there are cases in which it is not necessary to demonstrate the fact, and when, therefore, science can immediately go on to demonstrate the 'cause.' This takes place when the concomitance of two properties is obtainable by induction, without recourse being had to demonstration. "It is only when perception fails us," says Aristotle, "that we have to ask the question whether a thing is so or not. If we were on the surface of the moon, we should not have to ask whether eclipses occur, or why they occur; both fact and cause would be simultaneously apparent. The universal law

<sup>1</sup> *Post. Anal.*, 89<sup>b</sup> 23-90<sup>a</sup> 34.

<sup>2</sup> No doubt Aristotle sometimes uses the term 'cause' in the sense of the *ratio cognoscendi*, but in the strict sense 'cause' is the *ratio essendi*.

would arise to our knowledge from the visible phenomena. The present interference of the earth is visible to us ; the simultaneous failure of light is also apparent ; the universal principle would then be seized.”<sup>1</sup> At first sight this passage seems to assert that ‘both fact and cause’ are discovered by perception. But this is not Aristotle’s meaning ; what he wishes to show is merely that induction obtains from perception the data for the conclusion that there is a concomitance of two facts, — failure of light in the moon and the interposition of the earth. For induction cannot establish a ‘cause’ and still less can perception do so.<sup>2</sup> That this is Aristotle’s meaning is plain from another passage, in which he uses precisely the same illustration : “Even if we stood upon the moon and saw the earth obstructing it, we should not know the cause of the eclipse ; we should only perceive the phenomenon of the eclipse ; the cause of it we should not know in its universality ; for what we perceived was not the universal principle. Of course, if we frequently contemplated the occurrence of the fact, we should get on the track of the universal principle and should be able to demonstrate it ; for in several particular occurrences the universal becomes manifest.”<sup>3</sup> Aristotle’s view, then, is that while we can by induction obtain a knowledge of the concomitance of two facts, we cannot in this way dispense with demonstration ; for only by demonstration can we convert a mere concomitance into a causal connection. There are cases, however, as he indicates, in which induction enables us to dispense with a demonstration of the ‘fact.’ How we obtain a knowledge of the ‘fact’ is not the important thing ; it may be through induction from observed facts, or it may be by syllogistic inference from facts ; but in all cases we must be sure of the fact before we have any ground for valid demonstration of the cause, and we cannot even demonstrate a fact except from knowledge supplied by induction. The problem of science is to determine the essential properties of things, *i. e.*, to show why things must have certain properties, and this problem cannot be

<sup>1</sup> *Op. cit.*, 90<sup>a</sup> 25–30.

<sup>2</sup> *Ibid.*, I c. 5 ; cf. II, c. 7, 92<sup>b</sup> 1–2 ; I, c. xxxi.

<sup>3</sup> *Ibid.*, 87<sup>b</sup> 39–88<sup>a</sup> 5.

solved unless we know that things actually have those properties. Induction must therefore precede demonstration.

The precise relation of induction to demonstration is, however, not free from difficulty. An induction is complete when, by an examination of various particulars, we are enabled to reach a proposition which is true without exception (*κατὰ παντός*). On the other hand, Aristotle distinctly states that induction can never lead to the establishment of a proposition truly 'universal' (*καθόλου*), *i. e.*, one which is true of all the members of a class, true essentially, and true of the class as such. How, then, is the transition to be made from the inductive result, which only establishes the 'fact,' and the demonstrative conclusion, which reveals the cause? To answer this question, we must consider the relation of cause and effect. Does the existence of an effect necessarily imply the existence of one, and only one cause? Thus, if there is an eclipse of the moon, must there also be interposition of the earth? If trees are deciduous, must coagulation of their sap take place? Aristotle's answer is that wherever we have discovered the real or essential ground, the cause and the effect are necessarily reciprocal; in other words, there is only one cause and one effect. Thus, we do not demonstrate the cause of eclipse, unless we show that it takes place only when there is interposition.<sup>1</sup> But, while every demonstration of cause is based upon the necessary connection of the cause assigned with the given effect, we usually begin by discovering an invariable concomitance of two attributes. In this case we may not have reached the 'cause'; for though the invariable concomitance of two phenomena may usually be taken to indicate a causal connection, this is not always the case, nor can we ever conclude from invariable concomitance to necessary connection. Thus, we may discover by induction that those trees which are deciduous are also broad-leaved; but we cannot conclude that the 'cause' of their being deciduous is that they are broad-leaved; the 'cause' is in fact the coagulation of the sap in winter in this class of trees. Wherever, therefore, we do not discover a single cause of a given effect, we have not discovered the real cause,

<sup>1</sup>*Op. cit.*, 98<sup>a</sup> 35-<sup>b</sup>24.

but only an invariable concomitant. A plurality of 'causes,' when the term 'cause' is taken in its proper sense as that without which the effect cannot be, is a contradiction in terms.<sup>1</sup> It follows that induction can never of itself prove the cause. An inductive syllogism is defined by Aristotle as one in which we "conclude by means of the minor term that the major term is predicable of the middle"; in other words, it is the process by which we conclude from observed facts that an attribute found in all of these is invariably conjoined with some other attribute found in all of them.<sup>2</sup> We find, *e. g.*, that man, horse, mule, etc., are long-lived; we also learn by induction that they are gall-less; and we conclude that all gall-less animals are long-lived. Since man, horse, mule, etc., constitute the whole of the species 'gall-less,' the minor premise may be converted simply. Thus we obtain the syllogism:

Man, horse, mule, etc., are long-lived,  
The gall-less animals are man, horse, mule, etc.,  
Therefore, the gall-less animals are long-lived.

But, though in this way we establish the concomitance of the attributes 'gall-less' and 'long-lived,' we do not thereby prove that 'gall-lessness' is the 'cause' of 'long-life.' The inductive syllogism only enables us to assert that 'gall-less' and 'long-lived' are attributes invariably found in certain animals, not to connect the attributes as cause and effect. Induction can never establish causal connection. Even if we could learn from inductive observation that isosceles, scalene, and equilateral triangles contain two right angles, we should only establish the 'fact,' not the 'cause.'<sup>3</sup>

Now, if induction never takes us beyond the fact of concomitance, how is the universal principle obtained? If it obtained, Aristotle answers, by the direct grasp of the mind ( $\nu\omicron\upsilon\tilde{\nu}\varsigma$ ) which detects in the concomitance of attributes the cause or ground.

<sup>1</sup> *Op. cit.*, 98<sup>b</sup> 25-99<sup>a</sup> 4.

<sup>2</sup> In *De Part. Anim.*, IV, 2, Aristotle says that induction proves the 'cause.' This, however, can only be reconciled with his other statements by supposing that induction includes the grasp by thought ( $\nu\omicron\upsilon\tilde{\nu}\varsigma$ ) of the principle involved in the induction.

<sup>3</sup> *Anal. Pr.*, II, c. 23. Cf. *Anal. Post.*, I, 74<sup>a</sup> 25-33.

Having obtained in this way our universal principle, we are able to demonstrate the cause in regular syllogistic form.<sup>1</sup> The test of our having really obtained the principle seems to be that it, and only it, explains the fact, though it can hardly be said that Aristotle makes this clear. In any case, Aristotle's doctrine is that induction prepares the way for demonstration by revealing concomitant phenomena, the transition to demonstration being made by the direct intuition of the principle involved in the various particulars.

Though it can hardly be denied that the transition from invariable concomitance to absolute invariability is hard to justify, it must be said, in defence of Aristotle, that his doctrine is based upon the principle that nature is not a sphere in which pure contingency prevails, but is on the whole subject to law. This, indeed, is a presupposition for which Aristotle can supply no adequate justification; but, granting its truth, it is natural to suppose that when by induction we have discovered certain invariable conjunctions, the mind is able to seize upon the universal principle which these conjunctions suggest. All that Aristotle, however, can say in justification of the transition from the general to the universal, from 'fact' to 'cause,' is that when we are unable to find another middle term without going beyond the class in which our inquiries are carried on, we must accept the last middle term reached as expressing the cause. Having reached this stage, we demonstrate that the subject under consideration must have the property which we already know it to possess by connecting that property with the middle term or 'cause.'

Since the 'cause,' or at least the 'formal cause,' is identical with the definition of the property, it may be said that the object of demonstration is to enable us to define what the property in question is. We have therefore to ask what is the general relation of demonstration to definition. In seeking to answer this question, Aristotle begins with a 'dialectical' treatment, *i. e.*, he

<sup>1</sup> Thus, if 'gall-lessness' is the 'cause' of 'long-life' in quadrupeds, we can form the demonstrative syllogism:

All gall-less animals are long-lived.

Quadrupeds are gall-less animals.

Therefore, quadrupeds are long-lived.



starts from the ordinary view of definition as a finished product, which is independent of demonstration. From this point of view not only does definition seem to have no relation to demonstration, but it is hard to see how it can be justified at all. A definition presupposes the existence of that which is defined, and though we can understand how the existence of objects corresponding to the elementary conceptions of a science may be postulated, we cannot postulate the existence of a cause, which is only known as the result of a demonstration, as is the case in all demonstrations which establish a cause extraneous to the subject. If we could define 'eclipse' prior to demonstration, why should any demonstration be needed? Moreover, definition is in a peculiar sense a unity, containing no distinction of subject and predicate, whereas demonstration has to show that a certain predicate belongs to a subject, not in itself, but in its relation to something else.<sup>1</sup>

After this dialectical treatment, Aristotle proceeds to give his own solution. Definition only seems to have no connection with demonstration, because the essence of the thing defined is viewed in separation from the concrete nature of the thing. But, in truth, the essence is the reason of the fact, from which it cannot be separated; and therefore it can only be discovered after a distinction has been made between the fact and the reason of the fact. Hence, while the essence or cause cannot be demonstrated, — since a demonstration of it would mean that it could be brought under a higher conception, — it is only when demonstration has shown the necessary connection of a given property with its cause that we are able to define that property. The definition of the property is therefore subsequent to the demonstration of its cause, and, indeed, only differs verbally from the demonstration. The definition is in this case just the succinct statement of the demonstration; eclipse, *e. g.*, is 'withdrawal of light by interposition of an opaque body.' There are definitions, however, which are prior to demonstration, and indeed cannot be reached by demonstration, *viz.*, the definition of the primary elements of a genus, as we find them, *e. g.*, in geometry. Merely verbal

<sup>1</sup> *Anal. Post.*, cs. 3-7.

definitions, again, are preparatory to these two classes of definition. It is thus evident that real definition, like demonstration, is based upon the essential or rational ground of a thing.<sup>1</sup>

Now, the essence of a thing is that which determines the characteristics by which individual things are assigned to a certain class; and it is, therefore, important to determine the sum of attributes which constitute the conception of the thing. To discover the definition of a thing, we must find the primary genus and the attributes belonging as a whole to all the individuals of a species, but to no other individuals. This constitutes the definition of the thing. The definition, therefore, contains the genus and the specific attribute or attributes. Thus, the definition of the 'triad' is a 'number, odd, prime,' — a sum of marks which is found in every 'triad,' but in no other species of the genus 'number.' Since the specific difference is the main thing to be attended to in definition, we should divide the genus into species in accordance with these three rules: (1) The divisions should be based upon oppositions actually found in nature; (2) we should descend in regular order from the less to the more specific; (3) we should carry on the division until we reach the characteristic or characteristics which constitute the lowest species. Division by dichotomy is, therefore, rather barren in results, for nothing is learned from mere negatives; the true method of division is to follow the natural divisions of things themselves. Nor is there any real force in the objection of Speusippus, that a complete definition demands an exhaustive knowledge of all the individuals falling under a genus. For, in the first place, we do not need to know accidental attributes, which do not affect the essence of a thing; and, in the second place, we are entitled, in accordance with the law of contradiction, to exclude the sum of attributes belonging to the excluded species, and thus we reach the attributes found as a whole only in the species defined.<sup>2</sup>

We have seen that the middle term of a demonstrative syllogism may be (1) the 'essence' or 'formal cause.' But besides the formal cause the middle term may be (2) the material cause,

<sup>1</sup> *Op. cit.*, 93<sup>a</sup> 30-94<sup>a</sup> 19.

<sup>2</sup> *Ibid.*, 96<sup>a</sup> 22-97<sup>b</sup> 6.

(3) the efficient cause, (4) the final cause. In illustration of (2), the 'material cause,' Aristotle cites the demonstration that the angle in a semicircle is a right angle. The 'matter' here spoken of is space, which is capable of being analyzed into its elements. Such an analysis is performed, when it is ideally divided, by drawing a perpendicular upon a straight line, the space being thus divided into two right angles. The demonstration in Euclid, III, 31, assumes as middle term "the half of two right angles," and thus we get the major premise, "the half of two right angles is a right angle." This being a primary proposition, it cannot be demonstrated, but is obtained by the direct intuition of the figure. It is then proved that the angle in a semicircle is equal to the half of two right angles; and thus we obtain the conclusion that it is a right angle. The middle term, again, may be (3) the efficient cause. As an illustration Aristotle gives the syllogism:

All aggressors are naturally subject to attack from those they assail.

The Athenians were the aggressors in assailing the Persians.

Therefore, the Athenians were subject to attack from the Persians.

Lastly, the middle term may be (4) the 'final cause.' Aristotle at once illustrates the final cause, and shows its contrast to the efficient cause. In the syllogism of efficient cause, we begin with the action and go on to the result; in the syllogism of final cause, we begin with the 'end,' and go back through the means for its accomplishment. Thus we have the two syllogisms:

(1) Good digestion promotes health.

Walking after dinner promotes good digestion.

Therefore, walking after dinner promotes health.

(2) Healthy men have good digestions.

Walking after dinner makes men healthy.

Therefore, walking after dinner promotes good digestion.<sup>1</sup>

We have already seen how induction is related to demonstration in those cases in which the cause is extraneous to the sub-

<sup>1</sup> *Op. cit.*, 94<sup>a</sup> 21-95<sup>a</sup> 9.

ject under consideration. Here induction prepares the material for demonstration by proving the invariable concomitance of two phenomena, thus enabling the mind by an intuitive act to seize upon the universal principle necessary for a demonstration of the cause. But induction performs a still more important service in the interest of deduction: it is by means of it that the special principles from which a given science reasons are discovered, though the discovery is not made by induction, but by the intelligence itself. Now, these principles, as we know, themselves presuppose certain common principles or axioms, and we have therefore to enquire whether these also are obtained through the instrumentality of induction, and, if not, how they are established.

Can we justify the assumption tacitly made by every special science that the common principles or axioms are absolutely true? What, for example, to take a typical instance, is the rational ground for the assumption of the principle of contradiction? No doubt this principle is seldom or never explicitly appealed to, but it is always tacitly assumed. No principle has the same degree of importance; for by its removal the whole edifice of knowledge must fall in ruins. Can we then show ground for our assumption of its absolute truth? The axiom states that if a thing exists or has a certain attribute, it cannot at the same time not exist, or not have that attribute. On this law of things Aristotle bases the correspondent law of thought, that, if a thing is affirmed to exist or to have a certain attribute, it cannot be denied to exist or to have that attribute. As Aristotle's general doctrine is that the truth of a judgment is determined by its correspondence with that which is, obviously the law of contradiction is primarily a law of being. His view is not that things must conform to the law of contradiction, because thought cannot at once affirm and deny; but that thought cannot at once affirm and deny, because to do so is inconsistent with the nature of things. For, if a thinking subject may at once affirm and deny the same thing, it follows that the same thing (the thinking subject) may at the same time have two contradictory attributes, which is a violation of the law of contradiction. Now, the truth of this law may be proved in a certain sense by showing the untenability of the oppo-

site doctrine, and especially by a presentation of the absurd consequences of that doctrine; but it cannot, properly speaking, be demonstrated. Nor can it be reached by a process of induction; for, unless its truth is presupposed, there can be no induction. This does not mean that it is possessed by the mind prior to all experience, but only that its truth is directly grasped by the intelligence ( $\nu\omicron\tilde{\nu}\varsigma$ ) as involved in even the simplest knowledge of real things.<sup>1</sup>

When Aristotle comes to consider the basis of the special principles presupposed in the several sciences, he finds it more difficult to give a satisfactory answer. The problem may be put in this way: If each science presupposes the existence and definition of its principles, how is this assumption to be justified? Or, since our problem rather is how the existence and definition of all the conceptions, primary and subordinate, can be legitimately assumed in demonstration, we have to ask by what right the truth of those conceptions is so assumed. For, though we can demonstrate that a given subject can only have a certain property, because that property is involved in the essence of the species to which it belongs, or is inseparably connected with an essential property of the class to which it belongs, we cannot demonstrate the essence of the species, or the definition of the property. This is the question with which Aristotle is occupied in the last chapter of the *Posterior Analytics*.

Now, we know that science is impossible unless the first principles from which demonstration starts are absolutely true. How, then, are those principles known to be true? Have we an innate knowledge of them, though it exists at first in an unconscious form? In other words, is the mind unconsciously in possession of such conceptions as 'line,' 'triangle,' 'circle,' and does it obtain a definition of them by mere analysis? This view can hardly be accepted, involving as it does the absurdity that we are unconscious of conceptions without which demonstration is impossible, and the knowledge of which is, therefore, the presupposition of all demonstration. Aristotle, with his doctrine that truth consists in a knowledge of the actual nature of things,

<sup>1</sup> *Met.*, Γ., 4.

could not possibly accept a view which derives the principles of all knowledge from ideas that cannot be shown to have any relation to actual things. On the other hand, if we admit that knowledge of these principles is acquired, how has this knowledge been obtained? It is no doubt true that science assumes their truth; but science is knowledge which exists in a reflective form; and all reflective knowledge, as we know, is 'derived from knowledge that we already have.' How then does science come to have this prior knowledge? It cannot suddenly come into existence out of absolute ignorance; as in other cases, there must be a process by which an advance is made from implicit to explicit knowledge.

It is thus obvious that we must possess a peculiar faculty by which we are brought into direct contact with things, and this faculty is perception, which is 'an inborn faculty of discriminating' the sensible properties of things. Perception, however, is not yet the knowledge of the principles of science; for it does not tell us what are the essential as distinguished from the accidental properties of things. It is only through induction that from the confused knowledge of perception there emerges a knowledge of the essential determinations of things. But without perception no induction would be possible. It is indeed obvious that the lack of a sense would shut us out from a special kind of knowledge. If we were devoid of the sense of sight, how could, we have a science of optics? If we had no sense of hearing, how could there be a science of harmonics? Induction, therefore, presupposes perception; given perception, and we can understand how by a process of induction the conceptions postulated by demonstrative science may be obtained; but without induction there can be no demonstration. Even the abstract elements with which mathematics deals presuppose the inductive process by which they are obtained. If this is true of mathematics, it is still more obvious in the case of those sciences which deal with concrete things and events. No doubt Aristotle, in a passage already referred to, speaks as if perception may in some cases do the work, not only of induction, but even of demonstration. But perception can never of itself reveal the 'cause' of a fact. Even if

we could see the pores in glass and observe light passing through them, we should not get beyond the fact that the light of the lantern perceived is in this case due to the porous nature of glass; to obtain the general principle we must have repeated perceptions, and the activity of thought ( $\nu\omicron\tilde{\upsilon}\varsigma$ ) by which the law is seized. Induction is thus in all cases necessary in the discovery of a principle. To perceive that which is in the strict sense universal is inconsistent with the nature of perception, which is limited to the apprehension of particular phenomena in a particular place and at a particular time. Nor can induction from repeated perception be completed without the intuitive grasp by thought ( $\nu\omicron\tilde{\upsilon}\varsigma$ ) of the universal principle.<sup>1</sup>

Aristotle tells us the steps by which the transition is made from sensible perception to the grasp of principles. There is in man, and indeed in all animals, an 'inborn faculty of discrimination' which we call sensible perception. This faculty, however, only supplies the material for a higher stage of knowledge, when, as in man, some trace of what is given in sense is retained in the soul by memory. Experience, again, is memory working in accordance with mechanical laws of association, and many successive pictures of memory are required to make a single experience. In experience the mind simply works with a rule, as when the empirical physician, finding that a certain remedy cured Callias Socrates, and others of a particular disease, prescribes it in the case of a new patient. From experience, again, art and science arise when the law implied in the empirical rule is definitely grasped by thought, and is thus seen to be applicable to all the individuals which have certain features in common. Thus, at the stage of art, the physician prescribes for a particular disease in accordance with the law which applies to all individuals suffering from it. We thus learn, on the one hand, that there is no innate knowledge of principles, and, on the other hand, that the knowledge of principles is not derived from some higher form of knowledge, but is evolved from perception by the activity of the mind in grasping the principle presupposed in perception. We may compare the process by which a principle becomes known to us

<sup>1</sup> *Anal. Post.*, 99<sup>b</sup> 22-35; 81<sup>b</sup> 3-9; 90<sup>b</sup> 26-30; 87<sup>b</sup> 39-88<sup>a</sup> 6; 88<sup>a</sup> 12-16.

to the way in which order is restored in a battle after a rout. First one man stops in his flight, then another, then one more, until there is a nucleus for real work. Similarly, the flow of fugitive impressions stops at one point; a similar impression comes along, is arrested by the first, and reinforces it; thus, after a time, there is formed a single experience. This supplies the starting-point for the conscious process by which a system of conceptions is formed.<sup>1</sup>

The formation of conceptions may be further explained as follows: The object of perception is always a sensible thing as here and now, in which accidental and essential qualities are not as yet discriminated. Nevertheless, the repetition of perceptions naturally leaves in the soul the conception of what is common to a number of individuals. In this way, after a number of individual men have been observed, there remains fixed in consciousness the general idea of 'man,' the special characteristics of Callias, Socrates, and others having dropped out of view. When a number of such universals are formed, higher and higher universals arise, until a universal which falls under no higher conception is obtained. We begin, for example, with this or that species of animal, advance to animal in general, and so to living being. This is the natural process of abstraction in the formation of conceptions; and induction, as Aristotle himself tells us, is just the conscious imitation of this natural process. Hence the principles obtained by induction must be derived from perception, though the intuitive grasp of thought is always implied.<sup>2</sup>

We may sum up Aristotle's view of induction somewhat as follows: (1) Induction comes to the aid of demonstration either by supplying the materials necessary for the demonstration of a 'fact,' or by itself establishing the concomitance in a class of things of certain attributes. (2) No definition of an essential property, as distinguished from the essence of a thing, can be gained by induction; this can be effected only by the aid of demonstration, which brings to light, though it does not prove, the cause of the property. (3) Induction, however, is closely re-

<sup>1</sup> *Op. cit.*, 99<sup>b</sup> 35-109<sup>a</sup> 2.

<sup>2</sup> *Ibid.*, 100<sup>a</sup> 3-100<sup>b</sup> 17.



lated to the real definition of the primary conceptions, which form the basis of all demonstration. Definition in this case is a statement of the essential content of things. Now, our knowledge of this content is derived in the first instance from the natural process of abstraction (*ἀφαίρεσις*). From the perception of individuals there gradually emerges, in the way already explained, the conceptions which ordinary language indicates by class-names, *e. g.*, 'man,' 'animal,' 'living being.' With this process of abstraction induction cannot be identified; but the two processes differ mainly in the fact that abstraction is prior to reflective thought, whereas induction is essentially reflective and proceeds by a definite method. In many cases, therefore, induction starts from the conceptions already formed, and marked by a name, and employs these as a guide in its movement upward to universals. Even when it does so, however, the meaning of the conceptions formed by abstraction must not only be made clear and distinct by analysis, but they have in many cases to be rectified, so that induction is in a sense a re-formation of conceptions. The complete process of induction, indeed, always presupposes that the ground already traversed by abstraction should be gone over again, and thus induction is the virtual establishment of a new hierarchy of conceptions. Besides, there are cases in which we have not even a name by which to designate an important conception; and induction has therefore to form the conception for the first time, as, *e. g.*, when it constitutes the new conception of 'ruminants.'<sup>1</sup> (4) What constitutes the distinctive character of induction is that it is the process towards the first principles of science. For, in all its operations, it is guided by the end towards which it is directed, — the discovery of the ultimate grounds or causes of things; and, though this is a goal that it can never of itself attain, it is the indispensable pathway which must be traversed before thought can come into direct contact with its proper object, the intelligible and ultimate grounds of things. When this last point has been reached, the data for demonstration are ready, and the descent from the universal to the particular is effected.

Aristotle, then, finds that in the construction of the sciences

<sup>1</sup> *Op. cit.*, C., XII.

induction and demonstration each contributes its share. What, however, gives unity to the whole process of knowledge is the continual presence at every stage of the activity of thought ( $\nu\omicron\tilde{\upsilon}\zeta$ ), which is ever seeking to grasp the universal nature of things. Even sensible perception, in so far as it apprehends properties which are indeed found in the sensible thing as here and now, but yet are not peculiar to this thing, implies the exercise of thought. So when induction discovers in various objects of perception the invariable concomitance of attributes,  $\nu\omicron\tilde{\upsilon}\zeta$  rises from this concomitance to the universal principle. And, finally, when induction is the means of discovering the ultimate principles from which a given science starts, the discovery is possible only because  $\nu\omicron\tilde{\upsilon}\zeta$  grasps them directly and immediately. As these principles are the pre-condition of all demonstration,  $\nu\omicron\tilde{\upsilon}\zeta$  is the principle or starting-point of science. There are, therefore, two aspects in which we can view  $\nu\omicron\tilde{\upsilon}\zeta$ : on the one hand, it is the source of the whole body of science, and, therefore, reveals to us the essential nature of things, and, on the other hand, it is the source of the first principles on which the whole edifice of science is based. Aristotle, therefore, holds that  $\nu\omicron\tilde{\upsilon}\zeta$  is able to grasp the essential nature of things, so far as these are reducible to rational system. It cannot, however, be said that he conceives of nature as rational through and through. From this conclusion he is deterred by his conviction that there always is in things an accidental or irrational element, which reason cannot comprehend. On the whole, law prevails in nature, and so far as this is the case science is possible; but there remains a large margin of contingency, which cannot be won for the orderly realm of science.

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## THE PHILOSOPHICAL WORK OF HERBERT SPENCER.

I DO not know whether it may have occurred to any one else to associate the work of Émile Zola in fiction and of Herbert Spencer in philosophy. I find myself, however, mentally running together the careers of these two men, different as they were in surroundings, interests, aims, and personalities. The two somehow associate themselves in my mind, at least to such an extent that I find no words of my own so apt to characterize the larger features of the work of Herbert Spencer as these borrowed from the remarkable critical appreciation by Henry James of Émile Zola, published in the August, 1903, number of the *Atlantic Monthly*. Mr. James begins by referring to "the circumstance that, thirty years ago, a young man of extraordinary brain and indomitable purpose, wishing to give the measure of these endowments in a piece of work supremely solid, conceived and sat down to *Les Rougon-Macquart*, rather than to an equal task in physics, mathematics, politics, economics. He saw his undertaking, thanks to his patience and courage, practically to a close. . . . No finer act of courage and confidence, I think, is recorded in the history of letters. The critic in sympathy with him returns again and again to the great wonder of it, in which something so strange is mixed with something so august. Entertained and carried out almost from the threshold of manhood, the high project, the work of a lifetime, announces beforehand its inevitable weakness, and yet speaks in the same voice for its admirable, its almost unimaginable, strength."

With few verbal changes, this surely sets forth the case of Mr. Spencer; and in saying the word of criticism which must inevitably shadow all mortal attempts, I again find nothing more appropriate than some further sentences of Mr. James. "It was the fortune, it was in a manner the doom, of *Les Rougon-Macquart* to deal with things almost always in gregarious form, to be a picture of *numbers*, of classes, crowds, confusions, move-

ments. . . . The individual life is, if not wholly absent, reflected in coarse and common, in generalized terms; whereby we arrive . . . at the circumstance that, looking out somewhere, and often woefully athirst, for the taste of fineness, we find it not in the fruits of our author's fancy, but in a different matter altogether. We get it in the very history of his effort, the image itself of his lifelong process, comparatively so personal, so spiritual even . . . through all its patience and pain."

The point that seems to me so significant (and, indeed, so absolutely necessary to take into the reckoning), when we balance accounts with the intellectual work of Mr. Spencer, is this sitting down to achieve a preconceived idea, — an idea, moreover, of a synthetic, deductive rendering of all that is in the Universe. The point stands forth in all its simplicity and daring every time we open our *First Principles*. We find there republished the prospectus of 1860, the program of the entire Synthetic Philosophy. And the more we compare the achievement with the announcement, the more we are struck with the way in which the whole scheme stands complete, detached, able to go alone from the very start.

Spencer and his readers are committed in advance to a definitely wrought out, a rounded and closed interpretation of the universe. Further discovery and intercourse are not to count; it remains only to fill in the *cadres*. Successive volumes are outlined; distinctive sections of each set forth. All the fundamental generalizations are at hand, which are to apply to *all* regions of the Universe with the exception of inorganic nature, attention being especially called to this exception as a gap unavoidable but regrettable. There is but one thing more extraordinary than the conception which this program embodies: the fact that it is carried out. We are so accustomed to what we call systems of philosophy; the 'systems' of Plato, Aristotle, Descartes, Kant, or Hegel, that I suspect we do not quite grasp the full significance of such a project as this of Mr. Spencer's. The other systems are such after all more or less *ex post facto*. In themselves they have the unity of the *development* of a single mind, rather than of a predestined *planned achievement*. They are

systems somewhat in and through retrospect. Their completeness owes something to the mind of the onlooker gathering together parts which have grown up more or less separately and in response to felt occasions, to particular problems. Our reflection helps bind their parts into one aggregative whole. But Spencer's system *was* a system from the very start. It was a system in conception, not merely in issue. It was one by the volition of its author, complete, compact, coherent, not in virtue of a single personality which by ways mainly unconscious continually and restlessly reattempts to attain to some worthy and effective embodiment of itself. We are almost inclined to believe in the identification of conscious will with physical force as we follow the steady, unchanging momentum of Spencer's thought.

It is this fore-thought, foreclosed scheme which makes so ominous that phrase of James to the effect that 'the high project announces beforehand its inevitable weakness.' It is this which makes so unavoidable the appropriation of the phrase regarding absence of the *individual* life. It is this fact which gives jurisdiction to the further remark that "vision and opportunity reside in a personal sense, and in a personal history, and no shortcut to them has ever been discovered." It is this same fact that moves me to transfer to Spencer a further phrase, that the work went on in "the region that I qualify as that of experience by imitation." It may seem harsh to say Spencer occupies himself in any such way as to justify the phrase "experience by imitation." Or, on the other hand, one may say, however the case stands in arts and letters, that in philosophy one must perforce work in and with a region of experience which it is but praise to call "experience by imitation," since it is experience depersonalized, from which the qualities of individual contact and career, with their accidents of circumstance, and corresponding emotional entanglements, have been intentionally shut out. But whether one regard the phrase as harsh, or as defining an indispensable trait of all philosophizing, it remains true that one who announces in advance a system in all its characteristic conceptions and applications has discounted, in a way which is awful in its augustness, all individual contingencies,

all accidents of time and place, personal surroundings and personal intercourse, new ideas from new contacts and new expansions of life. It is upon the revelations that arise from the eternal mixture of voluntary endeavor with the unplanned, the unexpected, that most of us learn to depend for shaping thought and directing intellectual movement. We hang upon experience as it comes, not alone upon experience as already formulated, into which we can enter by "imitation." To assure to the world a comprehensive system of the universe, in a way which precludes further development and shapings of this personal sort, is a piece of intellectual audacity of the most commanding sort. It is this extraordinary objectivity of Spencer's work, this hitherto unheard of elimination of the individual and the subjective, which gives his philosophy its identity, which marks it off from other philosophic projects, and is the source at once of its power and of its "inevitable weakness."

The austere devotion, the singleness, simplicity, and straightforwardness of Spencer's own life, and its seclusion, its remoteness, its singular immunity from all intellectual contagion, are chapters in the same story. Here, we may well believe, is the revenge of nature. The element of individual life so lacking in the philosophy, both in its content and in its style, is the thing that strikes us in the history of Spencer's personal effort. No system, after all, has ever been more thoroughly conditioned by the intellectual and moral personality of its author. The impersonal content of the system is the register of the personal separation of its author from vital participation in the moving currents of history.

The seclusion and isolation necessary to a system like Spencer's appear from whatever angle we approach him. Doubtless his autobiography will put us in possession of one of the most remarkable educational documents the world has yet seen. But even without this, we know that his intellectual life was early formed in a certain remoteness. The relative absence of the social element in his education, and his own later conscious predilection for non-institutionalized instruction, for education of the tutorial sort apart from schools and classes, at once constitute and

reflect his aloofness from the ordinary give and take processes of development. The lack of university associations is another mark on the score. The lack of knowledge of ancient languages and comparative ignorance of modern languages and literature have to be reckoned with. Nor was Spencer (in this unlike Bacon, Locke, Berkeley, Hume, and John Mill) a man of affairs, one who continually renewed the region of "experience by imitation," of formulated knowledge, by engaging in those complications of life which force a man to re-think, re-feel, and re-choose; to have, in a word, first-hand experience. It would be hard to find another intellect of first class rank so devoid of historical sense and interest as was Spencer's; incredible as is this fact taken alongside authorship of a system of evolution! Certainly the world may wait long for another example of a man who dares to conceive and has the courage and energy to execute a system of philosophy, in almost total ignorance of the entire history of thought. We have got so used to it that we hardly pause, when we read such statements as that of Spencer, that after reading the first few pages of Kant's *Critique* he laid the book down. "Twice since then the same thing has happened; for, being an impatient reader, when I disagree with the cardinal purposes of a work I can go no further."<sup>1</sup>

It is not Spencer's ignorance to which I am calling attention. Much less am I blaming him for his failure to run hither and yon through the fields of thought; there is something almost refreshing, in these days of subjugation by the mere overwhelming mass of learning, in the naïve and virgin attitude of Spencer. What I am trying to point out is the absence in Spencer of any interest in the history of human ideas and of acts prompted by them, considered simply as history,—as affairs of personal initiation, discovery, experimentation, and struggle. His insulation from the intellectual currents of the ages as moving processes (apart, that is, from their impersonal and factual deposit in the form of 'science') is the mirror of the secludedness of his early education, and of his entire later personal life. I do not think it necessary to apologize even for referring

<sup>1</sup> *Essays Scientific, Political, and Speculative*, Vol. III, p. 206, note.

to the little device by which, when wearied of conversation, he closed his ears and made himself deaf to what was going on about him. There are not two facts here, but only one. His isolation was necessary in carrying out his gigantic task, not merely as a convenience for securing the necessary leisure, protection against encroachment, and the nursing of inadequate physical strength against great odds ; but it was an organic precondition of any project which assigns the universe to volumes in advance, and then proceeds steadily, irresistibly, to fill them up chapter by chapter. Such work is possible only when one is immune against the changing play of ideas, the maze of points of view, the cross-currents of interests, which characterize the world historically viewed, — seen in process as an essentially moving thing.

We have to reckon with the apparent paradox of Spencer's rationalistic, deductive, systematic habit of mind over against all the traditions of English thought. How could one who thought himself the philosopher of experience *par excellence*, revive, under the name of a "universal postulate," the fundamental conception of the formal rationalism of the Cartesian school, which even the philosophers whom Spencer despised as purely *a priori*, had found it necessary, under the attacks of Kant (whom Spencer to his last day regarded as a sort of belated supernaturalist), long since to abandon ? It is too obvious to need mention that Spencer is in all respects a thoroughgoing Englishman, — indeed what, without disrespect and even with admiration, we may term a 'Britisher.' But how could the empirical and inductive habit of the English mind so abruptly, so thoroughly, without any shadow of hesitation or touch of reserve, cast itself in a system whose professed aim was to deduce all the phenomena of life, mind, and society from a single formula regarding the redistribution of matter and motion ?

Here we come within sight of the problem of the technical origins and structure of Spencer's philosophy, a problem, however, which may still be approached from the standpoint of Spencer's own personal development. We must not forget that Spencer was by his environment and education initiated into all the



characteristic tenets of English political and social liberalism, with their individualistic connotations. It is significant that Spencer's earliest literary contribution, — written at the age of twenty-two, — was upon the proper sphere of government, and was intended (I speak only from second-hand information, never having seen the pamphlet) to show the restrictions upon governmental action required in the interests of the individual. I know no more striking tribute to the thoroughness and success with which earlier English philosophic thought did its work than the fact that Spencer was completely saturated with, and possessed by, the characteristic traditions of this individualistic philosophy, simply, so to speak, by absorption, by respiration of the intellectual atmosphere, with a minimum of study and reflective acquaintance with the classic texts of Hobbes, Hume, and (above all) John Locke. So far as we can tell, Spencer's ignorance of the previous history of philosophy extended in considerable measure even to his own philosophic ancestry; and I am inclined to believe that even such reading as he did of his predecessors left him still with a delightful unconsciousness that in them were the origin and kin of his own thought. The solid body and substantiality of Spencer's individualism is made not less but more comprehensible on the supposition that it came to him not through conscious reading and personal study, but through daily drafts upon his intellectual environment; the results being so unconsciously and involuntarily wrought into the fibre of his being that they became with him an instinct rather than a reflection or theory.

It is this complete incorporation of the results of prior individualistic philosophy, accompanied by total unconsciousness that anything was involved in the way of philosophic preliminaries or presuppositions, which freed Spencer from the lurking scepticism regarding systems and deductive syntheses which permeate the work of Locke, Berkeley, Hume, and John Stuart Mill. It was this thoroughgoing unconscious absorption that gave him a confident, aggressive, dogmatic individualism, — which enabled him to employ individualism as a deductive instrument, instead of as a point of view useful in the main for

criticising undue intellectual pretensions, and for keeping the ground cleared for inductive, empirical inquiries. The eighteenth century, indeed, exhibits to us the transformation of the sceptically colored individualism of the seventeenth century, taking effect mainly in a theory of the nature and limits of human knowledge, and employed most effectively to get rid of dogma in philosophy, theology, and politics, — the transformation of this, I say, into an individualism which aims at social reform, and thereby is becoming positive, constructive, rationalistic, optimistic.

Spencer is the heir not of the psychological individualism of Locke direct, but of this individualism after exportation and re-importation from France. It was the individualism of the French Encyclopedist, with its unwavering faith in progress, in the ultimate perfection of humanity, and in 'nature' as everywhere beneficently working out this destiny, if only it can be freed from trammels of church and state, which in Spencer mingles with generalizations of science, and is thereby reawakened to new life. Seen in this way, there is no breach of continuity. The paradox disappears. Spencer's work imposes itself upon us all precisely because it so remarkably carries over the net result of that individualism which (contend against it as we may) represents the fine achievement of the seventeenth and eighteenth centuries. It preserves it in the only way in which it could be conserved, by carrying it over, by translating it into the organic, the systematic, the universal terms which report the presence of the nineteenth century spirit. And if a certain constitutional incoherency results, if the compound of individualism and organicism shows cleavages of fundamental contradictions, none the less without this restatement the old would have been lost, and a certain thinness and remoteness would characterize the new. The earlier and more thorough-going formulations of the organic standpoint in post-Kantian thought were, and had to remain, transcendental (in the popular, if not technical sense of the term) in language and idea just because the expression, though logically more adequate, was socially and psychologically premature. It did not and could not at once take up into itself the habits of thought and feeling

characteristic of earlier individualism and domesticate them in the social and moral attitude of the modern man.

In the struggle of adjustment, Spencer is without a rival as a mediator, a vehicle of communication, a translator. It is, as we shall see, the successful way in which he exercises this function that gives him his hold upon the culture of our day, and which makes his image stand out so imposingly that to many he is not one creator with many others of the theory of evolution, but its own concrete incarnation. In support of the idea that Spencer's work was essentially that of carrying over the net earlier social and ethical individualism into the more organic conceptions characteristic of the nineteenth century science and action, we can here only refer to the *Social Statics* of 1850, — this being in my judgment one of the most remarkable documents, from the standpoint of tracing the origins of an intellectual development, ever produced. This book shows with considerable detail the individualistic method of the English theory of knowledge in process of transformation into something which is no longer a method of regulating belief, but is an attained belief in a method of action, and hence itself a substantial first principle, an axiom, an indisputable, absolute truth, having within itself substantial resources which may in due order — that is, by use of a deductive method — be delivered and made patent. It shows the individualistic creed dominant, militant; no longer a principle of criticism, but of reform and construction in social life, and, therefore, of necessity a formula of construction in the intellectual sphere. In this document, the world-formula of 'evolution' of later philosophy appears as the social formula of 'progress.' It repeats as an article of implicit faith the creed of revolutionary liberalism in the indefinite perfectibility of mankind. "Man has been, is, and will long continue to be, in process of adaptation, and the belief in human perfectibility merely amounts to the belief that in virtue of these processes, man will eventually become completely suited to his mode of life. Progress, therefore, is not an accident, but a necessity."<sup>1</sup>

In this characteristic sentence we have already present the

<sup>1</sup> *Social Statics*, pp. 31 f., edn. of 1892.

conception : first, of evolution ; second, of the goal of the evolution as adaption of human life to certain conditions beyond itself ; and third (although implicitly—the notion, however, being made explicit in other portions of the same book), the conception that it is the conditions to which life is to be adapted which are the causally operating forces in bringing about the adaptation, and hence the progress. The ‘organism’ of the Synthetic Philosophy is the projection of the individual man of the thought of 1850. The ‘environment’ of the latter system appears in the earlier sketch as ‘conditions of life.’ The ‘evolution’ of later systematic philosophy is the ‘progress’ figuring in the early social creed as the continual adaptation of human life to the necessities of its outward conditions. In all, and through all, runs the idea of ‘nature,’—that nature to which the social and philosophical reformation of the eighteenth century appealed with such unhesitating and sublime faith. Load down the formula by filling ‘nature’ with the concrete results of physical and biological science, and the transformation scene is complete. The years between 1850 and 1862 (the date of the *First Principles*) are the record of this loading. ‘Nature’ never parts with its eighteenth century function of effecting approximation to a goal of ultimate perfection and happiness, but nature no longer proffers itself as a pious reminiscence of the golden age of Rousseau, or a prophetic inspiration of the millenium of Condorcet, but as that most substantial, most real of all forces guaranteed and revealed to us at every turn by the advance of scientific inquiry. And ‘science’ is in turn but the concrete rendering of the ‘reason’ of the Enlightenment.

Spencer’s faith in this particular article of the creed never faltered. Eighteenth century liberalism, after the time of Rousseau, was perfectly sure that the only obstacles to the fulfillment of the beneficent purpose of nature in effecting perfection have their source in institutions of state and church, which, partly because of ignorance, and partly because of the selfishness of rulers and priests, have temporarily obstructed the fulfillment of nature’s benign aims. The *laissez-faire* theory and its extreme typical expression, anarchism, did not originate in the accidents of com-

mercial life, much less in the selfish designs of the trading class to increase its wares at the expense of other sections of society. Whether right or wrong, whether for good or for evil, it took its origin from profound philosophical conceptions; the belief in nature as a mighty force, and in reason as having only to coöperate with nature, instead of thwarting it with its own petty, voluntary devices, in order to usher in the era of unhindered progress. Spencer's insistent and persistent opposition to the extension of the sphere of governmental action beyond that of police duty, preventing the encroachment of one individual upon another, goes back to this same sublime faith in nature. The goal of evolution of Spencer's ethics, the perfect individual adapted to the perfect state of society, is but the enlarged projection of the ideal of a fraternal society, which made its way into the *Social Statics* from the same creed of revolutionary liberalism. His "Absolute Ethics," deductively derived from a first law of life, has in its origin nothing to do with science, but everything to do with the reason and nature of the Enlightenment. It has, of course, been often enough pointed out that the main features of Spencer's later ethics were already well along before he came to that conception of evolution upon which his sociology and ethics are professedly based. This point has, however, generally been employed as a mode of casting suspicion upon the content of his moral system, suggesting that after all it has no very intimate connection with the theory of evolution as such. But I am not aware that attention has been called to this converse fact of greater moment: that Spencer's entire evolutionary conception and scheme is but the projection upon the cosmic screen of the spectrum of the buoyant *a priori* ideals of the later eighteenth century liberalism.

Certain essays, now mostly reprinted in three volumes, entitled *Essays Scientific, Political, and Speculative*, put before our eyes the links of the transformation, the instruments of the projection. We may refer particularly to the essays on "Progress: Its law and Cause," "Transcendental Physiology" (both dated 1857); "The Genesis of Science" (1854), and "The Nebular Hypothesis" (1858), together with "The Social Organism" (1860). What we find exposed in these essays is the increasingly definite and solid

body of scientific particulars and generalizations, getting themselves read into the political and social formula, and thereby effecting transformation into the system outlined by the prospectus of 1860. This fusion is, indeed, already foreshadowed in the *Social Statics* itself.

This is not the time or place to go into detail, but I think I am well within the bonds of verifiable statement when I say that Spencer's final system of philosophy took shape through his bringing into intimate connection with each other the dominating conception of social progress, inherited from the Enlightenment, certain larger generalizations of physiology (particularly that of growth as change from homogeneity to heterogeneity, and of 'physiological division of labor' with accompanying interdependence of parts) and the idea of cosmic change derived from astronomy and geology, — particularly as formulated under the name of the nebular hypothesis. Social philosophy furnished the fundamental ideals and ideas; biological statements provided the defining and formulating elements necessary to put these vague and pervasive ideals into something like scientific shape; while the physical-astronomic speculations furnished the causal, efficient machinery requisite for getting the scheme under way, and supplied still more of the appearance of scientific definiteness and accuracy. Such, at least, is my schematic formula of the origin of the Spencerian system.<sup>1</sup>

<sup>1</sup> If our main interest here were in the history of thought, it would be interesting to note the dependence of the development of Spencer's thought, as respects the second of the above factors, upon factors due to the post-Kantian philosophy of Germany. I can only refer in passing to some pages of the *Social Statics* (255 to 261), in which, after making the significant statement that "morality is essentially one with physical truth — is, in fact, a species of transcendental physiology," he refers in support of his doctrine to "a theory of life developed by Coleridge." This theory is that of tendency towards individuation, conjoined with increase of mutual dependence, — a fundamental notion, of course, of Schelling. An equally significant foot-note (page 256) tells us that it was in 1864, while writing "The Classification of the Sciences," that Spencer himself realized that this truth has to do with "a trait of all evolving things, inorganic as well as organic." In his essay on "Transcendental Physiology," Spencer refers to the importance of carrying over distinctions first observed in society into physiological terms, so that they become points of view for interpretation and explanation there. The conception also dominates the essay on "The Social Organism." In fact, he makes use of the idea of division of labor, originally worked out in political economy, in his biological speculations, and then in his cos-

We are now, I think, in a position not only to understand the independence of Spencer's and Darwin's work in relation to each other, but the significance of this independence. Because Spencer's thought descended from the social and political philosophy of the eighteenth century (which in turn was a rendering of a still more technical philosophy), and employed the conceptions thus derived to assimilate and organize the generalized conceptions of geology and biology, it needed no particular aid from the specialized order of scientific methods and considerations which control the work of Darwin. But it was a tremendous piece of luck for both the Darwinian and Spencerian theories that they happened so nearly to coincide in the time of their promulgation. Each

mological, in very much the same way in which Darwin borrowed the Malthusian doctrine of population. The social idea first found biological form for itself, and then was projected into cosmological terms. I have no doubt that this represents the general course of Spencer's ideas. In the essay on "Progress," Spencer specifically refers to the law of the evolution of the individual organism as established "by the Germans — the investigations of Wolff, Goethe, and von Baer." The law referred to here is that development consists in advance from homogeneity to heterogeneity. He there transfers it from the life history of the individual organism to the record of all-life; while, in the same essay, he expressly states that, if the nebular hypothesis could be established, then we should have a single formula for the universe as a whole, inorganic as well as organic. And upon page 36 he speaks of that "which determines progress of every kind — astronomic, geologic, organic, ethnological, social, economic, artistic."

One need only turn to some of the methodological writings of Spencer to see how conscious he was of the method which I have attributed to him. The little essay entitled "An Element in Method," and certain portions of his essay entitled, "Professor Tait on the Formula of Evolution," are particularly significant. The latter indicates the necessity of making a synthesis of deductive reasoning, as exhibited in mathematical physics, with the inductive empiricism characteristic of the biological sciences; and charges both physicist and zoölogist with one-sidedness. The former essay indicates that, in forming any generalization which is to be used for deductive purposes, we ought to take independent groups of phenomena which appear unallied, and which certainly are very remote from each other. I am inclined to think that Spencer's method of taking groups of facts, apparently wholly unlike each other, such as those of the formation of solar systems, on one side, and facts of present social life, on the other, with a view to discovering what he calls "some common trait," has, indeed, more value for philosophic method than is generally recognised. In a way, he has himself justified the method, since his Synthetic Philosophy is, speaking from the side of method, precisely this sort of thing, astronomy and sociology forming the extremes, and biology the mean term. But, of course, Spencer's erection of the "common trait" into a force, or law, or cause, which can immediately be used deductively to explain other things, is quite another matter from this heuristic or methodological value. But this note has already spun itself out too long.

got the benefit not merely of the disturbance and agitation aroused by the other, but of psychological and logical reinforcement, as each blended into and fused with the other in the minds of readers and students. It is an interesting though hopeless speculation to wonder what the particular fate of either would have been, if it had lacked this backing up at its own weak point, a support all the more effective because it was so surprisingly unplanned, — because each in itself sprang out of, and applied to, such different orders of thought and fact.

This explains, in turn, the identification of the very idea of 'evolution,' with the name of Spencer. The days are gone by when it was necessary to iterate that the conception of evolution is no new thing. We know that upon the side of the larger philosophic generalizations, as well as upon that of definite and detailed scientific considerations, evolution has an ancient ancestry. From the time of the Greeks, when philosophy and science were one, to the days of Kant, Goethe, and Hegel, on one side, and of Lamarck and the author of *The Vestiges of Creation*, on the other, the idea of evolution has never been without its own vogue and career. The idea is too closely akin both to the processes of human thinking and to the obvious facts of life not to have always some representative in man's schemes of the universe. How, then, are we to account for the peculiar, the unique position occupied by Spencer? Is this thorough-going identification in the popular mind of Spencer's system with the very idea and name of evolution an illusion of ignorance? I think not. So massive and pervasive an imposition of itself is accountable for only in positive terms. The genesis of Spencer's system in fusion of scientific notions and philosophic considerations gives the system its actual hold, and also legitimates it.

Spencer's work is rightfully entitled to the place it occupies in the popular imagination. Philosophy is naturally and properly technical and remote to the mass of mankind, save as it takes shape in social and political philosophy, — in a theory of conduct which, being more than individual, serves as a principle of criticism and reform in corporate affairs and community welfare. But even social and political philosophy remain more or less



speculative, romantic, Utopian, or 'ideal,' when couched merely in terms of a program of criticism and reconstruction; only 'science' can give it body. Again, the specializations of science are naturally and properly remote and technical to the interests of the mass of mankind. When we have said they are specialized, we have described them. But to employ the mass of scientific material, the received code of scientific formulations, to give weight and substance to philosophical ideas which are already operative, is an achievement of the very first order. Spencer took two sets of ideas, in themselves abstract and isolated, and by their fusion put them in a shape where their net result became available for the common consciousness. By such a fusion Spencer provided a language, a formulation, an imagery, of a reasonable and familiar kind to the masses of mankind for ideas of the utmost importance, and for ideas which, without such amalgamation, must have remained out of reach.

Even they who — like myself — are so impressed with the work of the philosophers of Germany in the first half of the nineteenth century as to believe that they have furnished ideas which in the long run are more luminous, more fruitful, possessed of more organizing power, than those which Spencer has made current, must yet remember that the work of German philosophy is done in an outlandish and alien vocabulary. Now, this is not a mere incident of the use of language, — as if a man happened to choose to speak in Greek rather than in French. The very technicality of the vocabulary means that the ideas used are not as yet naturalized in the common consciousness of man. The 'transcendental' character of such philosophy is not an inherent, eternal characteristic of its subject-matter, but is a sign and exponent that the values dealt in are not yet thoroughly at home in human experience, have not yet found themselves in ordinary social life and popular science, are not yet working terms justifying themselves by daily applications.

Spencer furnished the common consciousness of his day with terms and images so that it could appropriate to its ordinary use in matters of "life, mind, and society," the most fundamental generalizations which had been worked out in the abstract

regions of *both* philosophy and science. He did *this* even though he failed to deduce "life, mind, and society" from a single formula regarding 'force.' This is a work great enough for any man, — even though we are compelled to add that the gross obviousness with which it was done shows that Spencer after all measured up to the level of the intellectual life of his time rather than, through sympathy with more individualized and germinal forces, initiated a new movement. Here, again, Spencer's own aloofness, his own deliberate self-seclusion counts. Spencer is a monument, but, like all monuments, he commemorates the past. He presents the achieved culmination of ideas already in overt and external operation. He winds up an old dispensation. Here is the secret of his astounding success, of the way in which he has so thoroughly imposed his idea that even non-Spencerians must talk in his terms and adjust their problems to his statements. And here also is his inevitable weakness. Only a system which formulates the accomplished can possibly be conceived and announced in advance.

Any deductive system means by the necessity of the case the organization of a vast amount of material in such a way as to dispose of it. The system *seems* to fix the limits of all further effort, to define its aims and to assign its methods. But this is an illusion of the moment. In reality this wholesale disposal of material clears the ground for new, untried initiatives. It furnishes capital for hitherto unthought of speculations. Its deductive finalities turn out but ships of adventure to voyage on undiscovered seas.

To speak less metaphorically, Spencer's conception of evolution was always a confined and bounded one. Since his 'environment' was but the translation of the 'nature' of the metaphysicians, its workings had a fixed origin, a fixed quality, and a fixed goal. Evolution still tends in the minds of Spencer's contemporaries to "a single, far-off, divine event," — to a finality, a fixity. Somehow, there are fixed laws and forces (summed up under the name 'environment') which control the movement, which keep it pushing on in a definite fashion to a certain end. Backwards, there is found a picture of the time when all this was set agoing, when the homogeneous began to differentiate. If evolution is conceived of as in and of itself *con-*

*stant*, it is yet evolution by cycles, — a never-ending series of departures from, and returns to, a fixed point. I doubt not the time is coming when it will be seen that whatever all this is, it is *not* evolution. A thoroughgoing evolution must by the nature of the case abolish all fixed limits, beginnings, origins, forces, laws, goals. If there be evolution, then all these also evolve, and are what they are as points of origin and of destination relative to some special portion of evolution. They are to be defined in terms of the process, the process that now and always is, not the process in terms of them. But the transfer from the world of set external facts and of fixed ideal values to the world of free, mobile, self-developing, and self-organizing reality would be unthinkable and impossible were it not for the work of Spencer, which, shot all through as it is with contradictions, thereby all the more effectually served the purpose of a medium of transition from the fixed to the moving. A fixed world, a world of movement between fixed limits, a moving world, such is the order.

JOHN DEWEY.

THE UNIVERSITY OF CHICAGO.

PROCEEDINGS OF THE THIRD MEETING OF THE  
AMERICAN PHILOSOPHICAL ASSOCIATION,  
PRINCETON UNIVERSITY, PRINCETON,  
N. J., DECEMBER 29, 30, AND 31,  
1903.

REPORT OF THE SECRETARY.

THE third meeting of the American Philosophical Association was held in the Murray-Dodge Hall of Princeton University, December 29, 30, and 31, 1903, and was attended by over fifty members and others, including members of the American Psychological Association, who had been invited to take part in the program and discussions. President Wilson welcomed the Association to Princeton in an address at the opening of the session on Tuesday afternoon, December 29, and the President of the Association, Professor Royce, responded. Notwithstanding the large number of papers, considerable time was found for discussion. Besides the 'general discussion' on the place of æsthetics, that on 'pragmatism' was perhaps the most noteworthy. This was continued at the 'Smoker' at the Princeton Inn following the President's address, the members from Chicago taking a special part.

At the business meeting the following report of the treasurer was read and accepted :

TREASURER'S REPORT FOR THE YEAR ENDING DECEMBER 31,  
1903.

*Receipts.*

Balance on hand, Dec. 31, 1902.....	\$ 10.77
Members' Dues.....	105.10
Interest.....	1.74
Total.....	<hr/> \$117.61

*Expenses.*

Rent of room for 'Smoker' at the Washington Meeting.....	\$ 5.50
Assessment for 'Smoker' of the Affili- ated Societies at the Washington Meeting.....	10.00
Printing.....	40.65
Postage and Stationery.....	16.03
	<hr/>
	\$ 72.18.
Balance on hand .....	45.43
Total .....	<hr/>
	\$117.61

Examined and found correct, Frederick J. E. Woodbridge, December 30, 1903.

The following officers were elected for the ensuing year : *President*, Professor George Trumbull Ladd (Yale); *Vice-President*, Professor Frank Thilly (Missouri); *Secretary-Treasurer*, Professor H. N. Gardiner (Smith); *Members of the Executive Committee for Two Years* (in place of Professors W. Caldwell and D. Irons, retired), Professor J. H. Tufts (Chicago) and Professor H. Heath Bawden (Vassar).

Sixteen new members were elected.

With reference to the action of the Association last year looking to a closer affiliation with the Western Philosophical Association, it was voted, on recommendation of the Executive Committee, that the subject of a change of name be left in abeyance till a joint meeting is arranged with the Western Association and that the latter be invited to meet with us next year.

Several invitations for the next meeting were announced. It was voted that the place of the next meeting be left with the Executive Committee, the desire being expressed that it should be held, if possible, in conjunction with that of the American Psychological Association. It was voted that the decision of the committee be reported to the members as early as practicable.

The question of the recognition on the part of the Association of the centenary of the death of the philosopher Kant, presented

by an outside correspondent, was referred to the Executive Committee with power to act.<sup>1</sup>

The Executive Committee announced that Professor Hammond had been appointed to examine and approve for publication the secretary's report.

It was voted that the thanks of the Association be given to Princeton University for their cordial welcome and hospitality. Special thanks are due to Dean and Mrs. Fine for the pleasant tea given to the Association in the old President's house on Tuesday afternoon, December 29, to President and Mrs. Wilson, for the reception at "Prospect" the same evening, and to Professor Hibben and other members of the Princeton faculty for the completeness and smooth working of all the arrangements for the conveniences of the meeting and the comfort of those attending it.

**The Eternal and the Practical.** By JOSIAH ROYCE.

[The President's Address, which appears in this number (March, 1904) of the PHILOSOPHICAL REVIEW.]

**Theories of Truth : A Contribution to Critique of Cognition.**

By KARL SCHMIDT. [Read by title.]

In a paper read before the Association last year, I formulated truth as a group of two conditions : The first determines the truth of a system with respect to its generating problem ; it requires the fulfillment of all the other conditions of critique of cognition ; the second determines the truth of the generating problem itself and therewith the truth of the system, not relatively to its own problem, but with respect to the system of cognition. These conditions were formulated on an *idealistic* basis.

<sup>1</sup> In conformity with this vote, the following memorandum was published about the middle of January in several journals, and the Secretary is informed that a number of institutions have acted on its suggestion :

The members of the American Philosophical Association, by its officers, desire to call the attention of all teachers of philosophy to the fact that next February 12 is the centenary of the death of Immanuel Kant. They respectfully suggest that such memorial notice should be taken of this fact as in each case seems practicable. It is hoped that a more formal celebration of the illustrious service of this great thinker may be arranged for at the next meeting of the Association.

GEORGE TRUMBULL LADD, *President*.

H. NORMAN GARDINER, *Secretary*.

The paper tries to justify this by showing the insufficiency of the opposing, the realistic or dualistic theory in one particular case, which is, however, of great importance for the whole theory. Heinrich Hertz, the eminent physicist, has given in the introduction to his *Prinzipien der Mechanik* a theory of truth of the *realistic* type, which commands the attention of the criticist, because it undertakes to determine the degree of correspondence of a system  $B$  with the realm of 'nature'  $A$ , which is necessary to make  $B$  a true system.  $A$  and  $B$  are determined by their laws of necessity,  $A$  by the 'Naturnotwendigkeit,'  $B$  by the 'Denknotwendigkeit,' and can be represented as realms by two circles, the elements of which may be called  $a_\mu, a_\nu \dots$  and  $b_\mu, b_\nu \dots$ . The  $a_\mu \dots$  are the 'things,' the  $b_\mu \dots$  are 'Scheinbilder oder Symbole,' which we 'make' of the things such that they satisfy a certain condition, which he calls the 'Grundforderung.' These 'images' are our 'representations'; "they have with the things the one essential correspondence which lies in the fulfilment of the above-named condition, but it is not necessary for their purpose that they have *any further* correspondence with the things. Indeed, we know not and have no means of finding out whether our representations of the things agree with them in anything else except in just that *one* fundamental relation." He formulates the 'Grundforderung' thus: We make our images such that "die denknotwendigen Folgen der Bilder stets wieder die Bilder seien von den naturnotwendigen Folgen der abgebildeten Gegenstände." The strength of the condition lies in this, — that it is an expression of that great method of determining truth in the Natural Sciences, the Experiment.

### The Relation of Appreciation to Scientific Descriptions of Values. By WILBUR M. URBAN.

The antithesis between appreciation and description is unjustified. No appreciation, still less progressive appreciation, is possible without corresponding description, presentation to consciousness of attitude, as a basis of further appreciation. It is also true that there is no description without some degree of appreciation (purpose) which gives it its meaning. The antithesis, when ex-

amined, really reduces itself to distinction between two types of description, which we may call 'appreciative' and 'scientific.' 'Appreciative' description is a type of communication which seeks to describe the transgredient moment in our immediate attitudes of feeling by finding prospective equivalents in ideal projections. It proceeds upon the postulate of indefinite increase of appreciation, meaning, through this ideal representation and projection. Such are all ethical and æsthetic categories. 'Scientific' description, on the other hand, seeks retrospective equivalents in some abstract aspect or content of consciousness, conceived as a continuum supplementing our discrete and immediate appreciations, a continuum, which, as in the case of the doctrine of feeling elements, admits of the reduction of appreciative distinctions to quantitative combinations of the elements. This type of description, when examined, is seen to imply a given quantum of intensity of feeling, of capacity of valuation within the system, and reduces all changes in the worth consciousness of the individual to mere transformations making the postulate of appreciative description illusory. Can there be a scientific, psychological reconstruction of worths? If this is the true type of psychological description, the answer must be 'no.' It can find no equivalents for the transgredient moment of appreciative description. But this type of description is the result of a false abstraction which eliminates the conative presuppositions of our feelings, differences in which, differences of systematization and arrest, alone afford the equivalents for the transgredient moments in our worth feelings which appreciative description takes account of. Psychological equivalents of worth attitudes will be functional, therefore, rather than given in terms of content, and the continuum which psychology constructs in its description of worths must be a 'conative continuity,' a continuity of process, in which, by the two moments of systematization and arrest, new attitudes are differentiated for appreciative description. There can be no psychological description of worths, therefore, without the use of appreciative description as a heuristic principle, for it is this description which first differentiates them. The postulate of this type of description, 'increase of meaning,' must, when



properly interpreted, be used as a regulative principle in the scientific description of worths. Thus used, it points the way to the discovery of the conative system which is the presupposition of the worth feeling and the psychological equivalent of the trans-gredient moment in it.

**Purpose as a Logical Category.** By J. E. CREIGHTON.

This paper undertakes to examine some of the arguments urged by its modern advocates in support of the position that thought is instrumental or teleological in character and subordinate to the purposes of practical life. Through the discussion and criticism of these arguments certain fundamental difficulties to which the position gives rise are exhibited and developed.

The arguments in support of the position which are subjected to criticism are : (1) The obvious utility of knowledge for practical life ; (2) the intimate psychological connection between will or action and idea ; (3) the alleged fact that science, as well as the ideal life in general, has been conditioned in its genesis by the necessities of practical life ; (4) the support that the instrumental view appears to receive from biological analogies and from the general theory of evolution ; (5) the negative argument that all theories of knowledge which suppose thought to be concerned to define or determine the nature of an ontological reality are powerless to explain how thought can thus deal with a transcendent reality, or can find in such a reality any standard of truth or falsehood.

The objections brought forward against the instrumental position are : (1) The ambiguity in the use that it makes of the term 'practical purpose,' which at one time denotes material ends for the attainments of which physical movements are necessary, and at another includes the solution of purely theoretical problems ; (2) the necessary subjectivity and relativity of the position ; (3) its lack of any principle by means of which experience can be unified ; (4) the sharp opposition, amounting to a real dualism, between thought and the antecedent experience out of which it is said to arise ; (5) the fact that the position presupposes as its indispensable background a logical and ontological system very different from that to which it explicitly appeals.

**A Thesis : Hegel's Voyage of Discovery Reaches as its Goal an Insight into the Necessity of Goodness and Righteousness in an Absolute Being and into the Consequent Necessity that the Absolute has the Form of Personality. By W. T. HARRIS.**

Hegel is said (on the authority of Rosenkranz) to have called his *Phänomenologie des Geistes* his 'voyage of discovery.'

In the *Phenomenology* Hegel recounts to us the insights which he arrived at from time to time in perfecting his view of the world. One must not on any account regard the *Phenomenology* as a work which states these insights in the order of their discovery by Hegel.

Hegel has seen the necessity of goodness and righteousness in the Absolute as a postulate to explain the existence and the preservation of the finite or imperfect. It is the problem of all philosophy to explain how the perfect makes the imperfect. It could never create the finite unless it were altruistic to the deepest depth of its divine nature.

The question of knowing the Absolute appeared to Hegel in this wise : The moral insight is an insight into true Being. The essence of morality is goodness, because creation depends on it. If God gave only a seeming being to man, if all finitude were illusion, He would not have goodness ; but in that case He could have no Being objective to Himself and could not be Personal ; for the eternal Word or Logos, perfect from all eternity, is not to be thought without the idea of Derivation, though this derivation must have been completed from all eternity, or else God could not have always been conscious. It is by the thought of this derivation that the Logos creates a world of evolution.

Hegel says (*Philos. of Relig.*, Vol. II, p. 55): "His absolute power is wisdom whose phases of manifestation are goodness and righteousness. Goodness consists in the fact that the world is. The world does not exist of its own right, it has been created and given its right to exist. This act of sharing his being manifests the eternal goodness of God."

Hegel sees that goodness and righteousness, the deepest moral attributes, cannot belong to a blind force, a mere substance, but

that they can belong only to a subject, to a person (*Philos. of Relig.*, Vol. II, p. 56): "Here the One is not mere substance, but the personal One, as Subject."

In the *Phenomenology* he states this insight with great prolixity, but in terms that are technical in the extreme. For example (*Phän. des Geistes*, p. 577): "The moral self-consciousness knows its knowing as the absolute essentiality or being which consists exclusively of pure will or pure knowing; it is nothing else than this will and knowing." [This is the knowing of the moral principles of goodness and righteousness as constituting the nature of Absolute Being itself—God as goodness and righteousness].

**Jonathan Edwards as Thinker and Philosopher.** By ALEXANDER T. ORMOND.

The first part of this paper discussed Edwards's philosophical inheritance, the second part his philosophy. The key to his philosophy is to be found, not in the youthful *Journal*, but in the treatise on *Decrees and Election*, where (58th sect.) a conception of God's relation to the ideal and actual worlds is developed strikingly similar to that of Lotze in his *Metaphysics*. There is first the order in which God conceives the world-plan, then the order of the real world. The nexus between the two is the decree, or choosing will. The antecedent motive of creation is love; first, love of complacency, God's love of His own excellency, secondly, love of benevolence, His regard for the happiness and moral excellency of His creatures. Material things exist only as ideas in minds, finite or divine. Nature expresses the "continued immediate efficiency of God." Finite spirits exist by virtue of the decree of creation; and, as the act of creation is continuous, they are held in being by the divine agency. There is a sense, Edwards says, in which the finite spirit is each instant a new effect. Edwards thus anticipates Lotze, but stops short of the latter's suggestion that the soul may be simply like notes in a harmony. The soul has the divine image in it; its true end is identical with the end of creation. But sin enters the world by the permissive decree as a condition of ultimate good. Man falls, the result being the natural transmission of depravity by heredity and

the consequent original sin of the race. Hence determinism of the will. Man is free to will as he pleases, but the pleasure of his fallen nature is to do evil. Hence the need of regeneration by divine grace. Edwards paints the evil world in colors darker than those of Dante or Schopenhauer ; but his faith in the scheme of redemption prevents him from being completely pessimistic. In the working out of the scheme of grace, Edwards allows of no coöperation of human and divine agencies ; man is here "absolutely dependent." He says, nevertheless, that while God must do everything, there is a sense in which man must do everything. Just as in creation God holds man in being while man lives his own life, so in regeneration God creates and sustains the new heart while the new creature lives its own life. Edwards denies to both God and man the freedom of indifference. Choice is determined by motives in the impulsive nature of the chooser, and these motives are causes. Our opinion as to Edwards's relation to the Kanto-Schopenhauerian voluntarism will be determined largely by our judgment as to what constitutes the central motive of his philosophizing. If we find it in his doctrine of will, the reasons for characterizing him as a voluntarist are plausible. If, however, we find the central motive in the doctrine of creation and the decrees, then it will appear that Edwards is more in agreement with the older thinkers who subordinate the divine will to the divine wisdom.

### **General Discussion on the Question : What Place has Æsthetics Among the Disciplines of Philosophy ?**

By GEORGE SANTAYANA.

While it would be easy to delimitate any sort of æsthetic field ideally, making æsthetics wholly psychological, or wholly appreciative, or wholly metaphysical, actual æsthetic interests cannot be covered by any one discipline of any kind. Psychology, in a certain sense, can retract or absorb everything, but only in retrospect and for a third person ; æsthetic judgment and poetic activity are in their living intent as much prior to psychology, and as independent of it, as mathematics or physics can be. Ideal science, on the other hand, cannot absorb all æsthetics, since the

psychology of taste and the history of art are subjects for natural philosophy ; nor is there a separate branch of ideal science called æsthetics. Appreciation of the beautiful involves animal interest and sensuous excitement ; all creation and judgment of an æsthetic kind are accordingly based on vital human interests and physical aptitudes ; the way in which nature has determined that life shall be enjoyable — the conditions of health and pleasure — must first determine æsthetic appreciation and give it body and direction. Nor can æsthetic values, impregnated in this way by animal joys, remain valuable in isolation from rational goods. A beauty which gave no foothold to reflection and had no affinity to any moral or intellectual interest, would be indescribably poor and trivial. Indulgence in it would signify a witless, foolish, arrested state of mind. Cultivation makes objects acquire for intuition the quality which their effects and implications have for ulterior experience, so that to a cultivated mind the insignificantly æsthetical cannot be even æsthetically interesting. All wisdom must color a judgment which is truly imaginative, and a true beauty must be a premonition of benefit or an echo of happiness. A separate æsthetic science is therefore impossible. What exists is, first, a psychological description of æsthetic experience in its natural conditions, and second, an art of rational criticism in which æsthetic values are compared and judged according to the contribution they make, directly or indirectly, to all human good.

By WILLIAM A. HAMMOND.

The discipline of æsthetics was distinctly differentiated from the other branches of philosophy in Aristotle's classification of the sciences, and under the title of *Poetics* Aristotle developed a fragmentary Philosophy of Art. The current designation of the discipline as *Æsthetics* was originated by Baumgarten, and this name was applied by him to the philosophy of sensible knowledge. Beauty and ugliness are here the perfection and imperfection of sensible knowledge. The modern conception of æsthetics as a science or philosophy whose data are given in the psychology of the æsthetic sentiments, the phenomena of art, and the problems of artistic genius, was first developed by Kant in the *Critique of Judgment*. The original differentiation of the disci-

pline from other disciplines is Aristotelian, the name is Baumgarten's, and the modern statement of the problem is Kant's. The general tendency of contemporary æsthetic studies is to erect the discipline into an empirical science. The disciplines which are most intimately connected with æsthetics are psychology, ethics, sociology, and metaphysics, and under one or other of these æsthetics has at various times been subsumed. As a normative science, however, dealing with values, it falls outside of psychology, which is a phenomenalistic science. As a normative science, whose concern is with the standards of beauty, sublimity, humor, etc., and with the psychology of feeling, it is differentiated from ethics, whose concern is with standards of right and wrong, and with the psychology of volition. From sociology it differs in its main concern with the qualitative nature of the æsthetic standard-idea and in its concern with individual psychology. From metaphysics it differs in aiming to become a particular empirical science, deriving its laws from induction applied to a specific group of facts, but in relating æsthetic values to the supreme values of life æsthetics demands ultimately a metaphysics.

By ETHEL D. PUFFER.

The aim of every æsthetics is to determine the nature of beauty and to explain our feelings about it. Philosophical æsthetics is generally held to have failed in its treatment of concrete beauty. The central problem of empirical æsthetics is to determine that conformation of the object which is the correlative of æsthetic pleasure, and to explain æsthetic pleasure in relation to it. But pure description explains nothing; the genetic study of art can treat it only as a social product without touching on its nature as æsthetic, while psychological æsthetics has not succeeded in doing more than characterizing the general æsthetic consciousness. The reason for this failure of psychological æsthetics lies in the fact that æsthetic pleasure implies a judgment. But the presence of judgment implies a teleological view, and indicates that the foundation of æsthetics must lie in a philosophical analysis. On the other hand, the reputed inadequacy of philosophical æsthetics is due to the illogical attempt to apply the philo-

sophical definition of beauty, a teleological concept, in the causal explanation of psychological facts. The philosophical definition of beauty must set forth its purpose or function in the universe. The nature or constitution of beauty, then, can be only the combination of qualities fitted to bring about this end. Philosophy lays down what beauty has to do. But, since it is in our experience of beauty that its end is accomplished, psychology must deal with the various means through which this end is to be reached. This principle may be illustrated as follows: It is the tendency of modern idealism to find the function of beauty in the universe a reconciling one, as in Schiller's "vindication of freedom in the phenomenal world." Reconciliation in its full sense can take place only in immediate experience; in the form of a perfect moment, rather than in an intuition of perfection. A state of perfection involves the unity and self-completeness of the personality. Viewed under the aspect of psychology, the personality appears as the psychophysical organism, its unity as a state of arrest, inhibition, repose; its self-completeness as a state of heightened tone, functional efficiency, favorable stimulation. Thus the positively toned æsthetic consciousness is characterized by a combination of stimulation and inhibition. This is possible only in the case of inhibition through the mutual checking of antagonistic impulses. The psychologist has then to ask what colors, lines, tones, rhythms, words, etc., favorably stimulate, and what combinations bring to repose; and any given work of art may be analyzed, and its effect explained, as attaining — or not attaining — to this combination through the effect of its elements on the psychophysical organism according to general psychological laws.

By FRANK CHAPMAN SHARP.

The value of an attempt to exhibit the place of æsthetics among the philosophical disciplines lies in the fact that an understanding of the exact nature and relations of a problem tends to ensure directness of aim and definiteness and appropriateness of method in its solution. A large proportion of the problems of æsthetics are admittedly psychological in nature. The objections urged against merging æsthetics in psychology are two: (1) The alleged existence of a standard of beauty, the recogni-

tion of which is held to constitute æsthetics a normative science ; (2) the alleged impossibility of explaining the nature of beauty without the aid of metaphysics.

(1) The word 'beauty' has in common speech no single connotation. However, a single element, always present, can be shown to be the essential one, namely, 'form.' The beautiful, then, is found in those relations of sensations or images which tend to give pleasure. For those who accept this definition, a standard of beauty is possible. The judgment, "That is beautiful," is objective in so far as it asserts the existence of a source of pleasure for all who apprehend the object in its entirety, who have given it an opportunity to exert its entire influence upon them, and who possess a mind capable of responding to all its aspects. This conclusion, however, may be reached by purely psychological methods. Therefore, the admission of an objective element in beauty is not incompatible with the classification of æsthetics as a branch of psychology. (2) Of those who hold the second view, many have adopted the Hegelian definition: Beauty is the appearance of the Idea to sense. Now this may mean either one of two things: The object by its qualities suggests the Idea to the mind; or, the Idea actually transfuses with its own presence the finite object. Only the former could be maintained by any serious student. It was, in fact, the view of Hegel. What plausibility the latter possesses is due solely to a failure to distinguish it from the other. As the same thesis could be proved for other so-called metaphysical doctrines, it will be seen that the second contention (above) derives its vitality solely from a misunderstanding.

### **The Concept of Consciousness.** BY RALPH BARTON PERRY.

Consciousness cannot mean everything and yet mean anything. In connection with the psychological aspect of experience, it may be shown to signify something definite and important; but, so interpreted, it cannot also serve as an account of being. The present paper seeks (1) to define the psychological concept of consciousness, and (2) to criticise its use as a fundamental metaphysical principle. 1. The first intent or bearing of experience is



objective, expressed in the judgment, "there is *a*." But experience is self-corrective. The content of *a* grows in the direction of its own completeness. While the direction remains the same, this experience is continuous and homogeneous, an experience, as we say, of the same object or context of objects. But an act of attention is possible whereby the direction is reversed. With this new interest there appears a series of *corrected experiences*, to any degree of retrogressive adequacy. The corrected or discredited experience in contradistinction to the experience of objects, is now regarded as *merely my experience*, and may be analyzed as such. These data cannot be called objects in the same sense as the standard objects, for they are completed and replaced by the latter. We provide a radically different category for them, that of subjectivity, and recognize that their content is common to themselves and to objects, while their specific character is given them by their limitations. An examination of the early development of human thought and of contemporary psychological method tends to confirm this definition of the field of subjectivity.

2. There are two notable attempts to make a fundamental metaphysical principle of consciousness. Perceptual or Psychological Idealism is self-contradictory in that it attempts to define being in terms of relativity or invalid experience. Transcendental Idealism commits the error of retaining in its Absolute the very characters of subjectivity that such a conception is designed to correct. A transcendental consciousness, like absolute relativity or universal standpoint, can mean nothing. Error is an outstanding problem. But this problem is at least equally difficult for the subjective idealist. Grant him his Absolute, and finite experiences with their relativity and exclusiveness are a totally new problem which the general pervasiveness of consciousness does nothing to solve.

### **The Analysis of Consciousness.** By GEORGE R. MONTGOMERY.

(1) We must first of all come to some idea and agreement as to the meaning of analysis. It is not mere division, for the whole must not be lost, nor the relation of the parts to the whole and to each other. These requirements are fully met by

the mathematical conception of analysis, where a number is analyzed by its relation to  $x$  and  $y$  coördinates. This conception of analysis does not lead to pluralism; it avoids the remnant of 'introjection' retained by the empirio-criticists in their opposition of a center-factor and a counter-factor; it gives the true conception of space; it covers the parallelogram of forces in mechanics; it gives a significance to the analysis of an effect into its causes in physics; it gives the true meaning of chemical analysis, where, in the analysis of water into H and O, the H is only seemingly independent. We may, indeed, think of H without reference to O, but an inalienable part of its being is its relation to O to form water, and its total reality is its relation to all other elements. That this mathematical form gives the best meaning for the word analysis is shown further by its representing logical analysis, where the concept 'mortals' is analyzed into 'men' and other mortals, and the concept 'men' into 'Cæsar' and other men; a proposition may therefore be defined as one leg of an analysis. (2) Having defined analysis, we must justify our taking consciousness as the primary concrete. Other suggestions have been 'the given,' with which phrase consciousness is regarded as more subjective and experience more objective; or the word 'experience,' this latter especially by the empirio-criticists. We prefer the word 'consciousness,' because, though less naïve, it does not lead to the opposition of the ego and non-ego as the principal coördination. (3) Conclusions: In a true analysis the whole of consciousness must not be confused with one of the elements found in it. The parts are abstract in relation to the whole. The subject is not the supporter for the whole of experience. The ego must be distinguished from the epistemological subject. The subject can be examined quite as well as the object.

### **The Meaning of the Psychical from the Standpoint of the Functional Psychology.** By H. HEATH BAWDEN.

It is natural to expect that the meaning of the psychical should undergo modification with change in the standpoint and method of psychology as a science. This change is simply a reflection

of the universal change in science to-day from a static to a dynamic point of view. In physical science this means the substitution of the concept of energy for that of matter. In psychology this dynamic standpoint is represented in the functional view of the nature of consciousness. Consciousness, like matter, is viewed as a function or process rather than as a structure or entity. More specifically, the functional view regards consciousness as the tensional phase of action, and as thus developed within action and for the sake of action. There are two questions of fundamental importance: (1) How do unconscious acts become conscious? Consciousness results from the interruption of action. This is the law of tension, the law of consciousness. (2) How do conscious acts become unconscious? Habitual acts result from the mechanization of conscious acts. This is the law of facilitation, the law of habit. Psychophysics and experimental psychology define the limits of this tension and facilitation in action. Physiological and comparative psychology show the types of experience within which such tension arises. Both show that the psychical and the physical are one process, not two, with phases of relative tension and relative equilibrium in adaptation. The real psychical (as distinct from the psychological) is the process *as process*. The psychical is experience undergoing reconstruction. The psychical as process must be distinguished from the psychical as content. The psychical, which I get through introspection (really retrospection), is a content no different in principle from the physical content which I get through so-called external observation. The difference between the real psychical (the process) and the physical (or any other phase of the content) is a difference of function only, since any phase of the content is capable of reconstruction. No physical is a fixed content; it is content only in relation to some center of transformation. No psychical is simply and only process; it is the reconstruction of old into new content. There is no mysterious uniqueness about the psychical. It is unique, to be sure, but so is any individual object in the universe. The psychical is unsharable, but in no peculiar sense. The psychical individual is the social whole of experience at one nîsus of its development.

**A Peculiar State of Consciousness.** By JAMES H. LEUBA.

The author appropriates the too loosely used word 'faith' as a name for the peculiar experience of which he wishes to speak. He proposes to give to that word a definite connotation. It is to be understood at the outset that faith is not used here as a synonym of belief, *i. e.*, conviction of the truth of a proposition. The faith-state involves, it is true, an attitude of belief towards certain conceptions, but belief is no more the whole of faith than the conviction of the existence of a rival is the whole of jealousy. Faith is not met with in religious life only. The condition of a Joan of Arc and of certain other heroic souls, who, after having conceived a great task, receive the joyous spirit of confiding enthusiasm, is also faith. There are, in addition to what might be termed the patriotic faith, two other varieties: the æsthetic and the intellectual faith. But one should carefully guard against assimilating faith with any kind of emotion or sentiment which might be called patriotic, æsthetic, or intellectual. Faith belongs to the class of experiences technically known as emotion. It is an emotion of the sthenic type. Like all other emotions, it consists in a unitary process (involving conative, affective, and intellectual elements) following a definite course and subserving a particular purpose. Faith may further be described as a pleasurable state of increased intensity of life, manifesting itself in a heightened confidence in one's higher self, and in an unusually high capacity of self-realization. It finds neither its cause nor its end in persons, or in concrete objects, but arises from the apprehension of abstract conceptions and from the desire for higher forms of activity. To the increased intensity of life corresponds a narrowing of the field of consciousness. The reduction in the breadth of the mental life conjoined with the increased affecto-motor activity within certain spheres, make the faith-state one of powerfully increased suggestibility to the ideas connected with its impulses and aspirations. Belief in these ideas follows naturally, if not logically, from these circumstances. The closest relative of faith is love; not the love for a person of the opposite sex, but asexual love, the divine, fiery love of Plato. Faith and asexual love seem to the author undis-

tinguishable. Both asexual love and faith are late products of human development. They are not to be found in the lower civilizations. They are among the new emotions in process of formation for the realization of a higher life. In a concluding remark concerning the genesis of this new emotion, the author claims that faith is neither a spontaneous, fortuitous variation (Darwinian factor), nor the result of adaptation to external conditions under the stress of effort (Lamarckian factor), but that it arises as a purposive internal adaptation, under the pressure of a desire for a mode of life unrealizable without it.

**The Resemblance of Twins.** By EDWARD L. THORNDIKE.

A preliminary report of a study of the physical and mental resemblances of twins undertaken by means of a grant from the Esther Herrman research fund of the Scientific Alliance of New York. The provisional results presented were obtained from thirty-five pairs of twins, 9 to 15 years old, all measured and tested by the same person in the same manner. The mental measurements taken were five tests of perception and attention, two of controlled association of ideas, two of rate of movement, and two each in addition and multiplication. The only physical measurement so far taken was stature. For a basis of comparison, records were at hand of the abilities of from 300 to 2,000 children with each of the tests. The amount of resemblance was measured by a Pearson coefficient of correlation, calculated directly by the formula

$$r = \frac{\sum xy}{n\sigma_1\sigma_2}$$

or indirectly from a comparison of the difference between twin and twin with that between any child and any other child of the same age, the formula here being, difference of twins = chance difference  $\sqrt{1 - r^2}$ . The resemblances were as follows :—

		Mean Square Error of $r$ =
1. In marking $\mathcal{A}$ 's on a sheet of printed capitals $r$ = .....	.73 <sup>1</sup>	.08 <sup>2</sup>
2. In marking words containing $a$ and $t$ on a printed sheet of Spanish words .....	.60	.15
3. In marking misspelled words on a page of English.....	.80	.20
4. In writing opposites to given words, such as light, tall, happy. .73		.10

5. In addition.....	.78	.15
6. In multiplication.....	.78	.15
7. In rate of making crosses (with a pencil on paper).....	.51	.20
8. In stature.....	.69	.10

There can be no doubt that such mental traits as those measured are largely subject to the influence of heredity. The general fact found years ago by Galton, and more recently by Pearson, Earle, Burris, and Thorndike, is confirmed by these records. How much of the resemblances is to be credited to similarity of training is not known, but in the case of 1, 2, 3, and 7 the amount is surely small. The following facts were also noted: (1) So far as these measurements go, mental capacities seem as much due to inborn qualities as are physical traits. (2) The opinion that twins are divided rather sharply into two classes, those nearly identical and those little, if any, more alike than ordinary siblings is entirely at variance within the facts in these thirty-five pairs. Both in stature and in the mental traits studied they shade off continuously from little to great resemblance. The same holds of their general appearance. The corollary to this opinion, that there are two distinct methods of development for twin embryos is, therefore, in need of initial investigation. (3) The opinion of Galton that physical likeness need not imply mental likeness is supported by these results. Indeed, the twins most alike in physique are, so far as these thirty-five pairs go, not a whit more alike mentally than those physically most unlike. (4) Even among the mental traits, there appears a very decided specialization. For instance, twins may be closely alike in tests of perception and very little alike in tests of the associative processes. This accords with the author's previous conclusions from a study of brothers and sisters.

<sup>1</sup> 1.00 would equal perfect identity. 0 would equal no more resemblance than any two children of the same age taken at random would manifest.

<sup>2</sup> The mean square errors were assigned on the basis, not merely of the formula

$$\sigma \text{ (of } r) = \frac{1 - r^2}{\sqrt{n(1 + r^2)}}$$

but also of the unreliability of the individual tests and of the basis of comparison in each case.

**An Establishment of Association in Hermit Crabs (*Eupagurus Longicarpus*). By EDWARD G. SPAULDING.**

The experiments described were carried on at the Woods Holl Laboratory during the summer of 1903 under the auspices of the Carnegie Institution. Bethe and Yerkes have each made experimental studies on habit formation in the Crustacea. Bethe found that the crab *Carcinus maenas* would always go to the dark notwithstanding its seizure there by an Eledone, and concluded therefrom that it could not learn and had no consciousness. He overlooked the fact that he had really only disproven that the excitation or the representation of the after-affect of the 'Eledone experience' was not strong enough to inhibit the natural instinct to hide; the representation might, however, be present though weaker. This illustrates a fundamental principle of method for comparative psychology, that in any instance where the question of the presence of consciousness is admittedly to be decided by experimentation, it must take a particular form; *i. e.*, the presence of some definite kind of consciousness must be investigated. Yerkes, with the crawfish, found by excluding the possibility of the animal's merely following a path by smell, taste, or touch, all of which, however, play a part in the formation of labyrinth habits, that upon the basis of one sense alone, vision, a consistent selection of the 'correct path' is possible. Hermits (*Eupagurus longicarpus*) inhabit gastropod shells, a mode of life correlated with a dextral asymmetry, and have eyes and sense hairs; the latter are gustatory, equilibratory, and tactile. The eyes are faceted and give a vague distinct vision. The brain is a syncerebrum and supplies all the end sense-organs. Thirty crabs in an aquarium were made to enter a darkened chamber within a *limited* time to get their food, thereby being given opportunity to form an association between gustatory and visual 'constructs.' After feeding, the darkening screen was removed and washed. The crabs were here, and also in controls, shown to be positively heliotropic. The ratio of improvement was from .66, 2.3, .66 entering, on the first three days respectively, in 1' to, *e. g.*, 32, 100, and 100 on the 7th, 12th, and 14th days. On the 9th day and afterward the effectiveness of the association was tested *with*

*only the darkening screen*; when, *e. g.*, 24 out of 28 entered, on the 15th day 24 of 27, the 18th, 22 of 27, within 3'. This is evidence that as a result of the association either an excitation or a representation of the taste construct takes place, for here with one stimulus the crabs react the same as they did previously with two stimuli and *against a natural positive heliotropism*. These results were confirmed by four control experiments.

### **Report on Work Done at the Yale Psychological Laboratory.**

By CLOYD N. McALLISTER.

By means of a kinetoscopic camera photographs of the two eyes were taken during the process of looking at a Müller-Lyer figure. Measurements were taken from a piece of chinese white placed upon the cornea to two fixed spots upon the face. A specimen record and diagrams of the results were shown. It was found that the oblique lines in the figure have an influence upon the character of the movement. The two eyes do not move in exactly the same way.

### **The Law of Veracity: A Study in Practical Ethics.** By

GABRIEL CAMPBELL.

The anomalies in the ethnic valuations of truth become a suggestive problem. Can Kant's pronouncement as to the absolute valuation of truthfulness be justified? Among Greeks and Romans we find antithetic developments. Christ, the Truth, his followers fail to follow. Utilitarian morality tends to compromise. Jurisprudence is most exacting in requirement of veracity. In religion there is less exaction. Physicians have justified false assurances. Passing from objective to subjective facts, we find man a creator. He may fancy, imagine, construct an entire unreal cosmos. The fictitious offers uncounted possibilities. He is deceived; he deceives. In bringing man to recognize the sovereignty of truth we must observe conditions. His business is his own. Proper concealment is his right. He will be misunderstood. It is not a primal duty to explain. It is claimed that falsehood is necessary in war. But warfare preserves the ethics of the savage. Modern warfare meets facts, develops a science. Truthfulness becomes revered. Instead of



false assurances for the sick, they need to be trustful. There are truths that are healing. Can we prescribe? Shall we add mendacity to imbecility? There is demand for medical practitioners who can be trusted. Finally, may we lie to save a life? The evidence is always doubtful that truth would be fatal. Moreover, what impairs health endangers life. Shall we discount accordingly? The question as to such risk would always be an open one. There would be an eternal quandary — confusion worse confounded. The rule would be unworkable. Man is moral because he is rational. God cannot lie. He knows. Intelligence cannot lie. Trendelenburg declares: "It is conscience that preserves the might of the will." Freedom demands a perfect moral system. The soldier offers life to save the country. Ethics cannot recognize a lesser loyalty. Religion needs absolute sincerity in its teachers. In business the goods must be equal to the sample. In general the yea must be equal to an adjuration. Religious faith in God must become social, political faith in man. It was the Nazarene who said: "The truth shall make you free."

**The Chief Factors in the Formation of the Moral Self.** By  
JAMES H. TUFTS.

The sources for the elements of the moral self are: (1) Physical, including natural selection, operating in connection with variation and heredity; (2) social heredity and education; (3) the individual's original contribution, including conscious choice and reflective valuation of conduct. (1) Furnishes the instincts and impulses which are the driving forces in conduct. Such variations as those of sex-differentiation, parental care, and impulses for possession, or, in later form, property, become in their interaction highly important for the moral life. (2) Includes two groups of factors: (*a*) ends and ways of acting suggested to the child or the younger generation, and adopted without reflection or valuation by ideo-motor processes — the 'imitation' of Baldwin and Royce; (*b*) ends and ways of acting more consciously commended to the younger generation, and involving more valuation. Initiation, marriage and religious ceremonies,

direct rewards and punishments, either physical or in the form of honor or ridicule and contempt, the agencies of art embodying the values of the race, especially its religiously sanctioned ideals, impress the individual with the views and values attained by the previous generation. (3) Actual progress in morality must come through active rising of the individual above the previous level. This may be due either to the 'back-door' method of a fortunate variation, or to the 'front-door' method of reaction by the self to a new situation, either physical or social. The specific conditions under which this takes place involve the whole economic, political, and religious progress, and find illustration in the development of the Hebrews and Greeks.

**Note on the Idea of the Moral Sense in British Thought prior to Shaftesbury.** By JAMES H. TUFTS.

Barrow, a preacher commended by Shaftesbury, uses the term "mental sense" to characterize the moral judgment, and emphasizes its immediacy. He emphasizes likewise the social instinct, and asserts, like Shaftesbury, that even a true regard to our own private good will prevent an excessive pursuit of self-interest. His sermons were published in 1685.

**The Summum Bonum.** By EVANDER BRADLEY MCGILVARY.

The good is the desirable; the desirable is "that which is worthy of being desired and ought to be desired" (Janet) or that which "I should desire if my impulses were in harmony with my reason" (Sidgwick). But reason is not a separate faculty issuing mandates to desire. A thing is called good or desirable only if we actually desire it, or should desire it if we knew it as it really is, *i. e.*, as adapted to satisfy desires that under certain circumstances would arise. What differentiates the desirable from the desired is the fact that when obtained it does not cause a regret; or if regret does arise, in the case of a desirable object, the regret is overborne by the satisfaction. Only actual experience of subsequent regret, or a good ground for supposing that there will be such a regret, would justify us in saying that a desired object is not desirable. Reason sets the desirable against the desired only by enlarging the scope of desire. Among desires important in

this connection are the desire for pleasant reminiscences and the desire to be seriously engaged in some absorbing pursuit.

The good being thus defined, the *summum bonum* may be defined either as that single object which is most desirable (*supremum bonum*), or as that series of objects which taken altogether as a series is the most desirable (*bonum consummatum*). The *supremum bonum* varies from man to man, and in the same man from time to time. The *bona consummata* of different men, though not without diversity, have certain points of identity (= common good) with each other. This identity is due (1) to coincidence of more or less independent desires in different persons; (2) to benevolent desires; (3) to contagiously aroused desires. The common good exerts a controlling influence over moral ideals and moral practice. The influence is sometimes consciously recognized; more often it works unconsciously in morality of the categorical type.

**Intensity.** By W. H. SHELDON.

The definitions of intensity hitherto given show obscurity and disagreement as to how far there can be quantity without measurability. If we examine the facts called intensive (sensation, velocity, temperature, etc.), we find them all to be such that their amounts can be described only in terms of time or tendency to change. That is, all intensities are transitive facts. No transitive fact can be measured, for it does not admit superposition. Only the permanent can be superposed, as, *e. g.*, figures and bodies. On the other hand, transitive facts are immediately seen to differ in amount, as in loudness of tone, velocity, or temperature. Intensity, then, is non-measurable quantity, where the whole-past relation is *impossible*, because it is the kind of quantity found in transitive facts only.

**The Scholastic Notion of the Infinite.** By L. VAN BECELAERÉ, O.P.

The notion of the infinite gives rise to two principal questions: (1) That of its origin; (2) that of the subject in which infinitude may be found. Contrary to Descartes's view that the idea of the infinite is innate in the human mind, the scholastics would main-

tain that it is acquired by a positive action of our mind, suppressing the notion of limits from the idea of some being. The second question, by far the more interesting, deals principally with the problem : Is it possible that there should exist a quantitative *material* infinite? For the existence *de facto* of a *spiritual* infinite, the deity or God, is one of the cardinal tenets of the scholastic system, and we have not to discuss that for the present. On the question of the possibility of the existence of a material infinite, the mind of Saint Thomas himself seems to have hesitated at times, although he admits with Aristotle the possibility of a creation *ab æterno* and therefore of a *successive* infinite ; still in his *Summa* (I<sup>a</sup> Pars, q. vii, a. 3 et 4) he asserts most strongly that the existence of a material (viz., quantitative) infinite, either as magnitude or as actual multitude, is an impossibility ; for nothing made of quantitative (viz., finite) elements can be infinite. He has been followed in that conclusion by most of the ancient scholastics. Some modern 'Neo-scholastics,' however, such as Mgr. Mercier, of the Institute of Philosophy at the Catholic University of Louvain, and several of his associates, find the arguments of the *Summa* non-conclusive, and have tried to solve the objections raised against the notion of a material infinite. But the undoubted ability of those philosophers cannot be said to have shaken the arguments of Aquinas. Still, the question is obscure, and admits of a great deal of discussion *pro* and *con*. The problem in itself is wholly independent, for the scholastics, from that of creation ; because such a material infinite, if it could exist at all, would nevertheless be a created infinite, exhibiting in itself no sufficient motive to account for its existence *de facto*.

**The Present Want of an Educational Ideal.** By FRANK SEWALL.

The possibility of science rests in the uniformity of law throughout all the realm of being. This uniformity can be the result of no convention of man ; it can be no aftermath of evolution : it must precede evolution, since evolution is controlled by it. This unity of law upon which all science rests implies a unity of reason, a supreme wisdom infinite and eternal ; and this wis-

dom is that of an infinite divine personality. The effectiveness as an educational idea of this concept of the divine personality in the midst of all reason, of all nature's processes, and of all human conduct, lies in its placing before the student's mind a form, and that the human form, as the form of forms because reflecting the divine image itself. Form is here understood as with Aristotle in its metaphysical sense; not as bodily shape, but as a unit or system of relations, wherein every particular is seen in its relation to others, and all in their relation to the central, common end or purpose. The human form is the highest ideal of systematized knowledge, because it unites all particulars under the one governing purpose of a personality, that is, of a will directed by reason; for this is the essential quality of Deity and of man as the image of God: will acting by reason into use. Under this ideal all particulars in education are capable of being marshalled into order and subordination. The systematizing power of such an education lies in its bringing all the discoveries of science, all the experience of history, all the motives of moral conduct, all man's hopes for eternity under this one sublime law; the eternal good as end, working by eternal wisdom as cause, into eternal service and use as effect, which is eternal happiness itself. It brings back the dissevered and shattered elements of knowledge into a system, and it puts into that system a sublime unchanging purpose. Man was not made by accident; his life in this world is not a flitting fancy that goes out with his breath; the creator of all things is not a slumbering abyss. Rather the whole of nature, of man, yea of the world to come, reflects the Divine Man in its midst, an infinite love ever going forth by wisdom into the accomplishment of its purpose, which is the conferring of eternal blessedness upon its intelligent and immortal creature, man.

**The Interpretation of Aristotle. Met. Z. 4. 1029 b 29-1030 a 6.** By WM. ROMAINE NEWBOLD.

[Text: 1030 a 2, 3, for  $\tau\epsilon\ \eta$  read  $\tau\epsilon\iota$ , elsewhere read with A<sup>b</sup> Punctuation: 1030 a 2  $\epsilon\acute{\iota}\nu\alpha\iota$ , ἀλλὰ τὸ ἰματίῳ  $\epsilon\acute{\iota}\nu\alpha\iota$ . a 3.  $\delta\lambda\omega\varsigma$ ;  $\eta\ \omicron\upsilon$ . Construe 1030 a 6  $\mu\acute{o}\nu\omicron\nu$  with 5,  $\epsilon\acute{\iota}\pi\epsilon\rho$ .]

*Translation and Interpretation:* But in fact this also, *i. e.*, the definition of *X* as "*white man*," does not belong to the class

"defined per se," i. e., "*defined as it really is.*" Now the words "not per se" have two meanings. In the first of these *the fault in the definition springs from the addition of words denoting a thing to the predicate of a proposed definition of an attribute of that thing*, in the second it does not spring from this source but from quite a different one. In an alleged definition of the first type, the definition is faulty because words denoting the thing itself are attached as a predicate to something else, which latter is to be defined — this for example would be the case, if, in defining the conceptual being of "white," one were to give a definition of "white man." In an alleged definition of the second type, the definition is faulty because to words denoting the thing itself something else is attached as a predicate, as, for example, if "X" denotes "white man" and one define "X" as "white." The object then denoted by "white man" is indeed white, its conceptual being, however, is not that of "white" but that of "X." Is, then, the latter a true concept of some thing at all? No; for the conceptual being is the conceptual equivalent of some thing, but when we have one element qualified by another, the resulting complex is not the conceptual equivalent of a "this" thing, i. e., of an individual, unitary thing — provided only that the "this," i. e., individuality, unity, be found in realities. That it is so found I have just shown (2. 3. 1029 a 27-8), and that the object which I have designated as "X," "white man," is a reality I have assumed (*ibid.*, a 33-4). Since the phrase "white man" is a complex, it does not define the unitary object "*per se*," i. e., "*as it really is,*" — the content to thought of the phrase "white man" is different from that of the object, and its use as the predicate of a proposed definition is an attaching to the thing itself of a predicate different from it. It belongs then to the second of the types of faulty definition above described.

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## REVIEWS OF BOOKS.

*Logik der reinen Erkenntniss.* Von HERMANN COHEN. Berlin, Bruno Cassirer, 1902. — pp. xvii, 520.

This volume forms the first part of a complete system of philosophy, and contains the fundamental principles by means of which the system itself is to be constructed. These principles arise in the sphere of pure knowledge; yet, while formal in origin, they serve to fashion their own content in the world of experience. They are not merely guiding, but they are determining principles as well. Such is Professor Cohen's main contention. In the development of his thesis he departs in many radical respects from the teachings of his master, Kant, whose interpreter he has been for many years, and in which office he has become widely known and appreciated. He has departed also in many essential particulars from his earlier work on *Kant's Theorie der Erfahrung*. That which is peculiarly characteristic of the present work is its insistence upon the essential purity of the thought processes, whose activity alone, it is maintained, produces their content. The following sentence, which I have chosen from many of a similar kind, will give an excellent idea of his general point of view: "Die verkehrte Ansicht dass das Denken, als Vereinigung, im Bilden von Ordnungen bestehe, hat ihren Grund in dem fundamentalen Vorurtheil, dass dem Denken sein Stoff von der Empfindung gegeben werde, und dass das Denken diesen Stoff nur zu bearbeiten habe. Dagegen denken wir auch die Mehrheit als zu erzeugende Einheit; auch für die Mehrheit die Aufgabe der Erzeugungs-Vereinigung. In dieser Bestimmtheit verstehen wir den Satz, dass die Thätigkeit den Inhalt erzeuge. Der ganze untheilbare Inhalt des Denkens muss Erzeugniss des Denkens sein. Und die ganze untheilbare Thätigkeit des Denkens selbst ist es welche den Inhalt bildet. Diese Einheit von Erzeugung und Erzeugniss fordert der Begriff des reinen Denkens" (p. 49).

From this general point of view, the author attempts to show how thought develops a system of fundamental judgments, which are the result of the pure processes of thought itself, and which function as determining moments in constructing the world of knowledge. These judgments follow in a general way the Kantian scheme of the categories. They are as follows:

1. Corresponding to the category of quality are the judgments expressing the laws of thought, which are divided into the judgments of (1) origin (*Der Ursprung*), (2) identity, and (3) contradiction.
2. Corresponding to the category of quantity are the judgments of mathematics which are divided into the judgments of (1) reality, (2) multiplicity, and (3) allness.
3. Corresponding to the category of relation are the judgments of applied mathematics, which are divided into judgments of (1) substance, (2) law, and (3) concept.
4. Corresponding to the category of modality are the judgments of method, which are divided into judgments of (1) possibility, (2) actuality, (3) necessity.

Such is the program of the logical foundations of the philosophic system. In this chain of the elements of pure thought, the primary link is found in the judgment of origin (*Ursprung*). It is the immediate conviction that every element of thought, every object of consciousness, must be traced to its first principle (*ἀρχή*). It is in the analysis of the implications of the primary principle that Professor Cohen finds the 'promise and potency' not only of the form, but of the stuff of all thought. For he discovers the common *Ursprung* of the varied forms of being in the infinitely small elements which constitute the ultimate parts of the world of reality. All that is finite has its origin in the infinitesimal. This is a matter of pure knowledge, because it rests upon the fundamental principles of mathematics as contained in the infinitesimal calculus. He contends, moreover, that the process of integration is one which is based essentially upon the principle of continuity, and inasmuch as the process from the infinitely small to the finite is a continuous one, there is in the unity thus established a fundamental basis of reality. Thus he says: "Die Continuität bedeutet daher den Zusammenhang der  $dx$ , den Zusammenhang der infinitesimalen Elemente. Man ist nicht mehr angewiesen auf einen anderer fraglichen Zusammenhang; nur dieser innerlichste und intimste wird gefordert. Nur er kann genügen; nur er ist durchschlagend; jede andere Art des Zusammenhangs wird entbehrlich. Alle sonstigen Zusammenhänge beruhen und bestehen in Vergleichen, die Sprünge machen und Lücken lassen. Die Continuität der infinitesimalen Elemente dagegen bedeutet den stetigen Zusammenhang, die Continuität der Realität" (p. 115).

Moreover, from the idea of continuity, he deduces by an alleged necessary implication the idea of number. With this quantitative basis of reality, he passes to the fundamental principles of the natural

sciences which he reduces to the one ground principle of motion. "Bewegung ist der Grundbegriff der mathematischen Naturwissenschaft. Der moderne Begriff der Bewegung, wie Galilei ihn bestimmte, hatte die Beharrung zur Voraussetzung; aber diese ist und bleibt die Beharrung der Bewegung; sie ist nichts weniger und nichts mehr als ein Correlat. Ihre Voraussetzung ist eben die infinitesimale Realität. Und man wird sich endlich entschliessen müssen, das Sein, an welchem es der Substanz nun einmal gebricht, in jener zu begründen. Diesen Zusammenhalt von Substanz und Realität fordert der Gang der Wissenschaft, die in ihrem dunkeln Drange des rechten Weges sich wohl nicht immer bewusst ist, nichtsdestoweniger aber so sicher ihn geht, als er ihre Geschichte vollzieht" (p. 502).

The concepts substance, energy, force, are to be regarded as the various manifestations of law; and this law is essentially that of motion. Moreover, the idea of law must be completed by that of end or adaptation which affords an *a priori* foundation for the biological sciences. Finally, this round of derived notions ends in the threefold methodology which follows the lines of the traditional division of the modal judgment. Professor Cohen, however, gives a peculiar interpretation to these judgments of possibility, actuality, and necessity. In the judgment of possibility there is found the incentive to research, the suggestion of hypothesis, and the beginnings of all speculation. In the judgment of actuality the real is determined under the conditions of space and time, and always in terms of magnitude. In the judgment of necessity is found the ground of all universal judgments and of their combinations in the syllogism.

Such, in brief, is Professor Cohen's account of the deduction of the various constructive principles of pure knowledge from the primary category of the *Ursprung*. Together they form the logical foundations of his philosophical system. The main question, however, which suggests itself is this: Are the foundations firmly grounded? If not, the superstructure must fall of its own weight.

The central principle of the entire system is the mathematical doctrine of the infinitesimal calculus, by means of which Professor Cohen endeavors to establish a continuous process from non-being to being through the integration of infinitely small elements. Such a process he regards as the primary warrant of all reality. It is a process, moreover, which occurs in pure thought alone, because the infinitesimal cannot be an object of perception, nor can it be represented by the imagination. Thus the author insists that "Das Urtheil des Ursprungs besagt nur, dass das reine Denken mit dem Ursprung beginnen müsse,

sofern es das Denken der Erkenntniss, also des Seins ist. Jetzt aber sehen wir, wie auf Grund des Ursprungs das Sein als Realität zur Definition gelangt. Das Unendlichkleine stellt es dar. Nur das Unendlichkleine vermag es. Und das Unendlichkleine kann es vollständig zur Vertretung bringen. Es giebt kein anderes Mittel, und es braucht kein anderes Mittel zu geben. Es ist nur sensualistisches Missverständniss des Unendlichkleinen wenn man nach einem anderen Mittel der Realität verlangt; wenn man im Besitze der Infinitesimal-Rechnung ein Mittel der Realität vermisst" (p. 113).

This position, however, which is central to the whole system, cannot be maintained in the light of modern mathematics. The mathematical theory of the calculus is not based upon the doctrine of infinitesimals, as Professor Cohen assumes. On the contrary, the Leibnizian theory of infinitesimals has been discarded, and the doctrine of limits has taken its place; moreover, in the doctrine of limits the idea of the infinitesimal has no place whatsoever. In support of this position, I quote the following from Russell's *The Principles of Mathematics*: "The infinitesimal calculus is the traditional name for the differential and integral calculus together, and as such I have retained it; although, as we shall shortly see, there is no allusion to, or implication of, the infinitesimal in any part of this branch of mathematics" (Vol. I, p. 325). Again: "In his (Leibniz's) first published account of the calculus, he defined the differential coefficient by means of the tangent to a curve. And by his emphasis on the infinitesimal he gave a wrong direction to speculation as to the calculus, which misled all mathematicians before Weierstrass (with the exception, perhaps, of De Morgan), and all philosophers down to the present day. It is only in the last thirty or forty years that mathematicians have provided the requisite mathematical foundations for a philosophy of the calculus; and these foundations, as is natural, are as yet little known among philosophers except in France" (p. 326). The latter reference is particularly to Couturat's *De l'infini mathématique*. Again, Russell says: "It is the doctrine of limits that underlies the calculus, and not any pretended use of the infinitesimal" (p. 329).

Moreover, according to the doctrine of limits, the differential cannot possibly be regarded as an intensive element of reality which is by nature essentially infinitesimal, but whose summation will give a finite magnitude. The differential has only a relative value in the mathematical process; it is a symbol or index of the limit. The gap between it and the limit is never bridged. It only indicates the limit, and is never transformed into it. It is in no sense an inten-

sively real element of a finite continuum. To establish this point one may well cite the following quotation from Professor Peano: "From the fact that the infinitesimal segment cannot be rendered finite by means of any actually infinite multiplication, I conclude with Cantor that it cannot be an element in finite magnitudes" (Peano, *Rivista di matematica*, Vol. II, p. 62). Also on this same point, the following from Mr. Russell: "The limit does not belong to the series which it limits; and in the definition of the derivative and definite integral we have merely another instance of this fact. The so-called infinitesimal calculus, therefore, has nothing to do with the infinitesimal, and has only indirectly to do with the infinite—its connection with the infinite being that it involves limits, and only infinite series have limits." These quotations will suffice to show Professor Cohen's central position to be untenable. The infinitesimal as the *Ursprung* of all reality is a conception which has no place in modern mathematics. But this conception is the foundation of the so-called system of pure thought. That system, therefore, cannot stand. However excellent the details of the superstructure may be, and there are many excellent phases of the system as presented by Professor Cohen, nevertheless, this basal weakness renders the system as a system wholly worthless. The parts cannot be built together upon such a foundation.

But suppose Professor Cohen's fundamental postulate as regards the nature and function of infinitesimals be granted for sake of argument, would his system then be able to justify itself? I think not, and for the following reason: Many of Professor Cohen's alleged judgments of pure thought could never have been framed were it not for the empirical data out of which they have arisen. Therefore, with such a dependence, they can not be called elements of pure thought. To take one example which will serve to illustrate a general tendency observable throughout this work, Professor Cohen declares that Newton's Laws of Motion are essentially judgments of pure thought, and that they lie at the basis of the entire system of mathematical physics: "Die mathematische Naturwissenschaft ist die Wissenschaft von der Bewegung. Dieser Wissenschaft Newtons liegen die drei Principien zu Grunde, die Newton als Gesetze der Bewegung (*leges motus*) bezeichnet hat" (p. 219). It should be observed that this passage occurs as a part of the author's attempt to show that the primary laws of the mechanical world have their origin in the sphere of pure thought. It is well known that Galileo, who formulated the two first of these laws, and Newton, whose name is especially associated with the third,

were close observers of nature, and that these laws represent the formulated interpretation of what they observed in experience, rather than categories of pure thought disclosed in the mind prior to all empirical suggestion. Indeed, the bare conception of laws of motion came to them primarily through the observed uniformities of nature. I take as testimony in point the following quotation from Thomson and Tait: "An axiom is a proposition, the truth of which must be admitted as soon as the terms in which it is expressed are clearly understood. But, as we shall show in our chapter on 'Experience,' physical axioms are axiomatic to those only who have sufficient knowledge of the action of physical causes to enable them to see their truth. Without further remark we shall give Newton's Three Laws; it being remembered that, as the properties of matter *might* have been such as to render a totally different set of laws axiomatic, these laws must be considered as resting on convictions drawn from observation and experiment, *not* on intuitive perception."<sup>1</sup>

Professor Cohen makes the radical mistake of regarding physics as a science of derived mathematics. It is essentially a science of applied mathematics, but not a science of derived mathematics; the empirical data cannot be separated from the so-called pure elements of thought without doing violence both to the form and the matter of natural phenomena.

It is impossible, owing to the limitations of the space allotted to me, to enter into a detailed criticism of this volume. Inasmuch as it purports to be the beginnings of a system of philosophy, I have endeavored to point out two particulars of structural defect which in my opinion imperil the system as a whole. My contention has been that the system rests upon a mathematical doctrine which is regarded by modern mathematicians as wholly unsound; and secondly, that the so-called elements of pure thought out of which the system itself is constructed disclose an obvious admixture of the stuff of experience.

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*Le personnalisme suivi d'une étude sur la perception externe et sur la force.* Par CHARLES RENOUVIER. Paris, Félix Alcan, 1903. — PP. 537.

The scope of this work, the last M. Renouvier published before his death in September, 1903, is exceedingly broad. It aims at a demonstration of the central doctrine of the Person as the ultimate reality,

<sup>1</sup> Thomson and Tait, *Treatise on Natural Philosophy*, Vol. I, Part I, p. 240.



the First Cause of the world ; as a perfect Personality, ground of the universe in its moral aspects, and also the principle and end of human cognition. The first part, entitled *Le personnalisme*, deals with the metaphysics, sociology, and eschatology of the subject. The second part, *Une étude sur la perception externe et sur la force*, begins with what M. Renouvier calls a psychology, a study of our perception of external objects, and ends with a discussion of the real world from the standpoint of physical science. Both lines of treatment converge in the support of his main contention, that reality, whether given to us in internal experience of states of consciousness, or in external representation of objects, or described by physical science in terms of the measurement of matter and force, can be rationally defined only in terms of the properties of the person and his modes of consciousness, his intellect, his feeling or desire, and his will.

M. Renouvier is careful to emphasize the unity of the two main divisions of the work. An admirably lucid and concise preface outlines his purpose substantially as follows : The foundation of all human knowledge is the knowledge of the person as consciousness and as will. This primordial knowledge is that of a certain relation of relations implied in all possible cognitions, namely, the relation of the subject to the mental object. The problem is to deduce from this relation the constitutive relations of the objects of experience, for these objects of experience have as factors and coefficients the laws of consciousness. Consequently, even if objects are represented as exterior, they are so under the laws of external representation which is representation *in us*.

We regard external objects, however, not only as representations in us, but as given for themselves. This suggests a double problem, that of external perception and of body. The problem of external perception asks how changes represented to consciousness by sensations, but which consciousness ascribes to objects outside itself, are related to those changes which consciousness recognizes as changes simply of its own states. Inseparable from this is the question : What is the nature and in what can consist the changes of body ? On the other hand, if we are considering the other side of the relation of mutual dependence between the changes of the self and the changes of the external object, we have a second double problem, that of will and of force. We wish to know how it comes about that desires and acts of will, internal phenomena of consciousness, are regularly followed by changes of external objects, whether these changes appear in the organic body external to consciousness, that is but partially and specifically

modifiable by the will, or in exterior bodies connected with this organic body by mechanical laws.

The mechanical propagation of changes from one body, whether organic or not, to other bodies, raises the question of the nature of force. We spontaneously apply the name 'force' or 'cause' to unify two laws of phenomena which from the standpoint of the subject's own feeling are widely separated. We assign as the cause of a phenomenon of movement excited in a body, a mental phenomenon, a desire. Here the term 'force' is applied in a direct sense to a case of volition. In the second case, we suppose an analogous relation of causality between two bodies whose respective and successive states of repose or of movement are mutually determined, and vary according to modes that can be empirically ascertained and mathematically formulated. The application of the term 'force' to this case presents to the philosopher the problem of the nature of bodies, and of the actions exercised by bodies, that is, an inquiry into the rational foundation of the general notions of physics, and the question whether these can be reconciled with the essential features of a personalistic doctrine of reality. The task which the author undertakes is thus the establishing of the postulate of the person as basal, ultimate, and supreme, unifying the fundamental concepts of metaphysics, sociology, psychology, theory of knowledge, rational mechanics, thermodynamics, etc.

From this can be traced the main points of difference between 'neo-Criticism,' as Renouvier styled his method in previous works, and the Criticism of Kant, and also the development of neo-Criticism into the more positive and constructive system of Personalism. Neo-Criticism adopted from Kant the method of the categories and the substitution of rational belief for false criteria of evidence in the domain of metaphysics and rational psychology. It modifies and supplements the Kantian criticism by subsuming all the categories under the general principle of the relativity of knowledge and making them all modes of the category of relation. In his own words: "The most general relation which all other relations presuppose is Relation itself. This first of the categories, considered no longer abstractly but in a living theatre of representations, is a law of consciousness or of personality which embraces at once as its instruments of knowledge and its forms, Time, Space, Quality, Quantity, Causality, Finality. It is, then, under the aspect of Personality that we must rationally represent the total synthesis of phenomena, and define the real and living world. The Unconditioned, Substance, Noumena are abstractions,

pure intellectual fictions." As he says elsewhere, his theory of knowledge is a thorough-going relativism which means a personalism. Renouvier charges Kant with an inconsistent adherence to the realism of substance and the noumenon, which "debases the real person, all whose modes are phenomenal and relative to an empirical illusion," and which makes "the Kantian philosophy practically bent upon the ruin of the person." Renouvier insists that the person's phenomenal knowledge may know real relations and therefore true existence. The standard of knowledge is what the person *can* know, and not what by the critical hypothesis he can not. The person with his modes of consciousness is the ultimate fact.

This serves to suggest a certain difference between Kant and Renouvier in their attitude toward rational belief. With Kant, the faith in the self which has taken the place of knowledge is the consciousness which man's practical reason has of himself as a being with moral obligations and, consequently, free, but a person only in the noumenal world. Renouvier also calls the affirmation which man makes of his personality a moral affirmation, as contrasted with his natural belief in external objects, and he agrees virtually with Kant in regard to the relation between moral obligation and freedom, although he rejects Kant's thorough-going determinism as regards the phenomenal world, and insists upon man's real free-will in the living world of nature. With Renouvier, however, belief in the person as a real knowing subject in the real world is an epistemological rather than a moral postulate. It is the *Cogito, ergo sum*, the irresistible consciousness that I exist because I think and perceive objects in relation to my subject in a phenomenal world, — rather than, as with Kant, I ought, therefore I can, therefore I am a real being in a noumenal world.

In metaphysics Renouvier takes an equally definite position in favor of the concrete person as the ultimate reality. The search for a synthetic concept of the phenomenal world disposes also of the metaphysical question of the infinite. We posit a first beginning of phenomena, because of the logical impossibility of their retrogression *ad infinitum*. The personalistic doctrine thus completes itself by the "recognition of an act of creation as an initial fact, and of the unity of the first and creative person as a truth imposed upon our assent by the harmonious unity of the laws which rule the understanding of intelligent beings and that world whose representation is given to them. The notion of a first beginning cannot be grounded upon anything else than the feeling of willing, the sole foundation of the concepts of cause and force." The person, therefore, both as will and as

consciousness is the ground of the universe. The development of this positive theism is, to Renouvier's mind, the chief progress which personalism has made beyond the relatively sceptical and negative condition in which neo-Criticism left the study of God and the world.

M. Renouvier devotes the earlier chapters of his *Metaphysics of Personalism* to demonstrating the theistic hypothesis. He chooses the hypothesis of a first beginning or a creation of the world in preference to the opposed hypothesis of an infinite series of past phenomena without a beginning, because the latter involves the contradiction of an actual infinite, and confuses the concept of numerical quantity with the true notion of causation. M. Renouvier admits that everything which begins to exist has a cause, but denies that this principle can be interpreted as meaning that every cause has an anterior cause. A first beginning, however, involves a first cause as the first reality.

The characteristics of this first real being which are to serve as principles of explanation for the phenomenal world cannot be found in abstract ideas, in a so-called realism of essences, substantified sensible qualities, or a realism of certain abstract notions of the understanding, substance, for example, or in such a mere name as the Absolute. The condition of all these generalizations from particular possible relations is consciousness, the relation of subject and object. This first real being, then, must be conscious in order to be real. Moreover, the creative act of the first cause in the first beginning of phenomena must have been an act of will; for we have no idea of a power of producing phenomena which is not will. Our first cause, however, is not will apart from consciousness; for this is an unintelligible abstraction. "The creative will of the world must be united with thought, intelligence, and desire to form a mental synthesis like that which constitutes our own being, the human person in the consciousness which it has of itself" (p. 11). Consciousness, then, perception, appetition, energy in relation, is the essential and fundamental nature of all real being, varying in clearness, perfection, and adequateness from the simple monad to the Creator. Renouvier's thought of the Creator is, however, that of a perfect Personality, with a "power of perceiving the sequences of phenomena in order to represent them to himself in willing, of conceiving the relations by which phenomena are eventually determined, and establishing the general laws which combine to compose a world in time and space, and of being animated by the feeling characteristic of his intention, the love of his work, the desire of accomplishing it" (p. 16). The creative act is not a mystery, but a fact, inexplicable because it cannot be deduced from other facts,

but neither more nor less intelligible than existence itself. The creation is the "primordial fact of the excitation by the supreme consciousness and will not only of phenomena in himself, but of consciousness and wills outside himself" (p. 18). The unique characteristic of the divine act of creation is that this act makes the creature capable of a will which is not that of the Creator.

The doctrine of the perfect Personality, and of creation by his will, finds its ultimate logical ground in the principles of contradiction and relativity. Its moral proof is grounded upon the moral postulate of perfection; it is to this that we must appeal for our judgments of the creation from the standpoint of its value, as good or evil for its creatures. The moral argument for the perfection of the creative Personality is drawn from our observation of syntheses of phenomena "which suggest the concept of a final purpose in nature, while the idea of finality by a spontaneous induction suggests that of a personality as its efficient cause" (p. 25). The perfection of our first Person must, however, be rightly interpreted, not in the meaningless sense of an Absolute, indefinable and even without a name, or in the contradictory sense of an actual infinite quantity. The term 'infinite,' as applied to God, means only indefinite power. The true sense of the perfection of being is the Being "entire, complete, which unites in a synthesis, real and without any defect, all the elements of objective and subjective thought of which we conceive only partial imperfect ideas" (p. 25). If applied to the creation, it must be remembered that perfection is a term of relation between the will and its achievement of the ends which it has proposed to itself, that it is thus an attribute of persons rather than of work. Perfection, further, is of two kinds; there is intellectual perfection, which has reference to the "coördination of all the relations of which the idea of the world is composed, the synthesis of all the directive laws of the understanding and forms of the sensibility, and moral perfection, which respects the good of the creatures, the justice and goodness of creation" (p. 28). But here is suggested the problem of evil. Why is the work of the perfect Creator not a perfect work? Shall we call evil a kind of good, as the determinists do, or shall we attribute it to the act of the creature in a world which was originally perfect?

M. Renouvier's answer to these questions recapitulates without substantial addition the treatment of the problem of evil given in earlier treatises. He ascribes all evil to the free will of man choosing to act selfishly in the perfect human society of the perfect primitive world, in which, at the complex beginning of things, a finite number of per-

sons was placed. He describes the destruction of this primitive world and the perishing of the original persons as a result of the revolt against justice in human society, the reappearance of human life in a world ill-adapted to the human species and in forms of society where injustice reigns. He reiterates his belief that in the end the monads composing the original persons, now living through the lives of individuals, will return to their original combinations, and the original finite number of perfect persons, enriched by the memories of the types of individuality and the forms of society through which they have passed, will be restored in the restoration of the originally perfect society and the primitive perfect world. The world process thus has a beginning and end, is not infinite in time, nor is either the original or the final world infinite in space.

In the study of external perception, a running commentary upon the representative historical theories of perception contends that relativism or personalism, rightly understood, corrects the errors and embodies the truths of both idealism and realism. The true sense of idealism is that "no objective representation can be more than *subjectively* objective, of whatever nature be its perception, whatever form it affects, by whatever judgment it is accompanied" (p. 24). Berkeley was right in affirming that sensible qualities have all their existence in minds, that sensible phenomena are always modes of feeling or of thought. We have no real perception of bodies in themselves, but merely ideas which the presence of these bodies arouses in us, and which are signs of their presence and of their externality. Body is thus simply a system of changes in us, while the qualities of bodies, extension, impenetrability, resistance, are all so many particular forms of relation to each other and to some consciousness which represents them. These sentences show, however, the sense in which relativism contains the truth of realism. Our ideas are signs of the presence of bodies. Representation is subjectively *objective*. With the consciousness which the subject has of itself, the consciousness of the object is inseparably combined, but by a kind of natural belief. For there are in external perception no intermediaries between objects and ideas. We have to admit the perception of bodies as an ultimate and irreducible relation.

Resistance, however, is a so-called property of bodies, which is a relation chiefly for will. Our experience of external reality does not consist purely of cognitive representation. It involves relations of action and reaction. We act upon bodies and they upon us; we resist them and they offer resistance to us. In our knowledge of the

external world, the living experience of force is the most convincing evidence of the existence of a physical reality or matter. Force, however, so far as it represents a relation between the will of the subject and that will's sensible effects, is another irreducible relation. There is no intermediary which can be perceived between the will as conscious cause, and the phenomena objectively represented in the physical world, and no rational hypothesis of the connection can be offered beyond the fact itself. Will, therefore, is an inexplicable first fact, whose feeling can be evoked, but whose idea cannot be defined.

We use the term 'force,' however, to express a relation between objects in the physical world. We speak of it as a cause of movement and of heat, and of the different kinds of force, *e. g.*, kinetic and vibratory energy, and we ask physical science for a definition of its nature and a formulation of its laws. M. Renouvier's reading of the investigations of rational mechanics and thermodynamics into the nature of force as manifested in gravitation and heat, the laws of the transmission of movement and transmutation of energy, the question whether space is continuously filled with bodies which transmit force by contact, or whether force can act at a distance, is to the effect that none of these sciences penetrates the real nature of its subject. Physical science can know and measure force only in its effects, in quantity of movement or in heat; it deals in the end only with the empirical relation of antecedent and consequent, not with the nature of the cause. So far, however, as the physicists can judge of the nature of the cause from its effects, it acts like mental force, — like the only force we really know, which is the will. That is, the idea of a transitive force transmitted from body to body has been given up; force evidently acts at a distance and seems to be spontaneously radiated from bodies, as if bodies were accumulations of living centers with wills of their own. Rational mechanics, therefore, seems in the end to define the forces of nature by mental agents, to hand over its paramount problem to psychology, and Renouvier feels that his thesis of the conscious person as the foundation of all knowledge, and the willing person as the center and core of all real existence and happening, stands established.

Only a word of criticism can here be given. The relation of the creative Personality to the world composed of these aggregations of centers of will-force, and the relation of this will-force to human persons, is left vague. One feels also throughout the work the lack of definite and original treatment of the postulate of personality from its ethical side. The author places practically all his emphasis on the intellectual side of personality, and borrows what recognition he accords to the moral self.

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*Why the Mind has a Body.* By C. A. STRONG. New York, The Macmillan Company; London, Macmillan & Co. Ltd., 1903. — pp. x, 355.

“The reader will find in this book,” writes the author in his preface, “(1) a sketch of an explanation of the connection of mind and body; (2) a proposal, based thereon, for a settlement of the controversy between the parallelists and the interactionists.” The explanation is in substance the one “which is implied in the panpsychism of Fechner and Clifford,” and the striking title of the work has been chosen “with the object of putting this panpsychist pretension distinctly on record.” In the light of this explanation, Professor Strong will show that parallelism, so far from denying the efficiency of mind, involves and implies it.

The inquiry undertaken is thus essentially metaphysical. But contemporary discussions of the problem as to the relation of mind and body are mainly concerned with the causal issue. Does the causal influence run in both directions, from body to mind and from mind to body, as interactionism holds; or, does it run only in one direction, from body to mind, as automatism would have us believe; or, finally, are the parallelists right in denying the causal influence in either direction? This is primarily a question of fact; but, could we settle the issue by empirical considerations, still we should not rest satisfied without going further and seeking in some ultimate metaphysical theory to discover how and why mind and body are connected at all. So one is bound sooner or later to plunge into metaphysics in order to make any one of the theories intelligible.

But it happens that we cannot even settle the question as to the causal relation by any available empirical data, nor is it likely that we ever shall be able to do so. The facts admit of interpretation in terms of interactionism, automatism, or parallelism; and there are difficulties in the way of accepting any one of these views as usually interpreted. Part I of the work before us (pp. 1–160) is given over to this empirical inquiry. Professor Strong’s analysis is keen, his discussion comprehensive and transparently lucid. The study of the facts, it is found, lends support to no particular causal theory. It gives us a single positive result, the law of psychophysical correlation. “This law includes two propositions: first, that consciousness as a whole never occurs except in connection with a brain process; secondly, that particular mental states never occur except in connection with particular brain events” (p. 66). It might be fairly objected that the facts to which appeal is made are hardly sufficient



to establish the universal negative of this second proposition, though they may point that way; and certainly we want more evidence when our author later interprets the relation in terms of a third proposition to the effect that the particular brain-event corresponding to the particular mental state "mimics" the latter "in all its details."

The demonstration of causal relations between physical events involves, Professor Strong holds, besides the determination of cause by the criterion of uniformity, "the construction of a continuous phenomenal series reaching from the cause to the effect," and "the demonstration of qualitative and quantitative relations." Since these things clearly cannot be established as between mental and physical events, the causal argument would seem to make for parallelism. "But its validity is hypothetical, resting on the assumption that mental events are simultaneous with their cerebral correlates. . . . The argument from the principles of biology appears to prove the mind efficient; but it is subject to the difficulty regarding the origin of consciousness. The argument from the principle of the conservation of energy raises a strong presumption, not amounting to demonstrative proof, that the contrary is the case. Thus two great branches of natural science seem arrayed against each other. Physics and biology appear to authorize opposite conclusions concerning the efficiency of mind" (pp. 152-160).

Thus a study of the various empirical arguments adduced in support of the several theories of the relation of mind and body reveals their insufficiency to justify a final decision; and we are forced over into the metaphysical inquiry. Here we must first determine exactly what we mean by the highly ambiguous terms 'mind' and 'matter,' which are generally employed in a most uncritical way. Only when we have succeeded in doing this, shall we be able to assign to each of the causal theories its definite meaning, and to decide finally between them.

Body, and matter generally, is resolved, on the basis of the usual phenomenalistic arguments, into "our perceptions." But this Berkeleyan idealism (and, it may be added parenthetically, no other form of idealism is given serious consideration) gives us a "piecemeal fragmentary world," and not the continuous and abiding universe of physics. Hence, though a logical theory, and an adequate transcript of the facts, it is not convincing. And since, according to it, perceived events cannot be explained by means of preceding events which were not perceived, and "on the idealistic theory did not happen at all," it "leaves the need for genetic understanding unsatisfied."

Still, the continuous and abiding matter that science conceives is not accessible to perception, has none of the sensible qualities, and is, therefore, properly speaking, not material. Make the scientist's realism critical, and, our author holds, physical occurrences acquire the needed permanence by being regarded as the symbols of extra-mental realities, things-in-themselves, that continue to exist. It is *as if* physical occurrences had permanent existence just as the scientist supposes. They do not thus exist as physical objects, nor yet as bare possibilities of perception, but rather as real possibilities, real dispositions, as it were, of the natural order (pp. 188-192).

It may be doubted whether the scientist would recognize his realism in this guise; and it is certain that any form of idealism that involves the belief in a permanent non-temporal self, — any that is not sheer phenomenalism, — would satisfy the requirements of the scientific mind, and “the need for genetic understanding,” at least as well as the author's so-called “critical realism.” Of course, such idealisms would not make possible a genetic understanding of the real self, for that self is, according to them, not subject to genesis. But does Professor Strong's theory satisfy either the scientist's or the plain man's realism? It evidently depends upon the meaning given to these extra-mental realities, or things-in-themselves. They are conceived as “mental in their nature.” But what is mind? The mind is “resolved into a series of mental states.” More properly, the present ego is the state of consciousness at present immediately intuited, — “experienced,” but “not known.” In memory, we are told, the past state recalled “really *is* another consciousness.” Apparently, then, another ego witnessed the past state. This is introducing discontinuity with a vengeance. The scientist's continuous world would seem in a sad case. And how we should ever know the series of states, those different consciousnesses, how ‘the other fellow's’ experience would ever get to be mine, remains a mystery.

The discussion of the ego in the brief chapter on consciousness is far from adequate. For example, the theory of a non-phenomenal subject is disposed of cavalierly in a couple of pages, mainly on the ground (for this error is common to the three objections urged) that that theory involves “extruding the ego from experience,” which is precisely what that theory affirms to be impossible. However, while not extruding the ego from experience, this theory may indeed consistently hold that the non-phenomenal ego can never be completely experienced, in the sense of being immediately perceived, in any one, or in the sum of all of the states of consciousness. But, properly, the

term 'experience' should not be taken in the restricted sense seemingly implied in Professor Strong's criticism. And, of course, if experience were completely intelligible *minus* the permanent non-phenomenal ego, its assumption were needless. But I know of no philosopher guilty of denying this. The strictures made are thus wholly wide of the mark. Consciousness, Professor Strong holds, is real "as long as it lasts," — "as real as anything can be. It is the very type of reality, an integral part of the universe of things" (p. 210). But what we should greatly like to know is how, on the author's view of consciousness and the ego, we should ever be able to conceive that universe of things.

"The relation between mind and body," writes Professor Strong, "will evidently be an essentially different thing, according as the body is the symbol of a reality external to consciousness, or only a phenomenon within consciousness" (p. 212). And a large portion of the book is taken up with the discussion of the possibility, the proof, and the nature of things-in-themselves, which are defined as "realities external to consciousness of which our perceptions are the symbols." The existence of things-in-themselves cannot be immediately known, but only inferred; and, as they never could be given immediately in experience, "the hypothesis of their existence can never be verified," and we must remain more or less in the dark concerning their nature (cf. p. 192). But "the legitimacy of the general class to which things-in-themselves belong" is established, Professor Strong thinks, by our undoubted knowledge of the reality of other minds. Other minds are for us simply other existences, and our knowledge of them is "transcendent" ("not empirical"). Neither the external nor the internal senses lend the slightest testimony to their existence, yet we know "with perfect certainty" that they exist. Inasmuch, however, as the senses can give no valid testimony on this point, we have a kind of knowledge that is founded "neither on reason nor [on] experience, but solely on instinct" (p. 219, ff.). It would have been well to probe deeper into the grounds of this belief, instead of proceeding, as the author does, simply to "take the knowledge of other minds for granted and use it as a test of epistemological principles." And if this belief is founded neither on reason nor on experience, by what right do we call it knowledge?

Professor Strong has several "proofs of things-in-themselves":

1. Their existence must be assumed "in order to fill in the gaps between individual minds, and give coherence and intelligibility to our conception of the universe. Without them, the universe would consist wholly of individual minds with gaps of nothingness between,

and our philosophy be one of pluralism. But the fact that causal influences get across the gaps proves that these are filled" (p. 259). (But would not this interpolation of a number of things-in-themselves merely multiply the gaps to be bridged, substituting many small breaks for one large leap? It is like trying to make a line out of spots by filling in a lot of mathematical points. For, on the theory of reality which this book presents, these things-in-themselves are, as it were, 'chopped off with a hatchet' one from another; and will prove as intractable in philosophy as the hard unsociable atoms of early physics proved in natural science. It is hard to see how these things-in-themselves could turn into a continuous world of reality by a mere increase in their number, unless we tacitly assume the existence of an inclusive consciousness or a non-phenomenal subject.)

2. Our perceptions are undoubtedly conditioned by physiological events. Every phenomenalistic theory must go to ship-wreck on this fact. But, if we only assume the existence of things-in-themselves, we have a way out. For then the physical train connecting the extra bodily object with the brain-event can be regarded as symbolizing a real causal train acting upon the mind from without. "The physical train that appears to exist in advance of the perception is simply a second manifestation of the constituent links of that real train, acting by means of collateral real trains, upon some other mind, or conceivably upon the same mind" (p. 264).

3. "The phenomenalistic account of the origin of mind is like the view that the brain process does not arise out of simpler physical facts. . . . It is a sort of psychological vitalism, which not only denies derivation from the inorganic but actually ignores the latter's existence" (p. 270). If, however, we assume the inorganic world to be symbolic of things-in-themselves, mental in their nature but with a simpler kind of mentality, the evolution of minds out of them, and simultaneously of the brain out of their symbols, becomes conceivable.

We need not examine these arguments further, for we are told that, after all, the leap is "irrational." "Things-in-themselves cannot be logically demonstrated in such a way as to extort conviction from the skeptic." But, Professor Strong adds, other minds are in the same case. We are led to believe in *them*, not by "reasoning, but by some deep pre-rational instinct, like that on which our faith in memory rests." Our "inference of things-in-themselves is exactly analogous to that of other minds." For our part, we cannot see that the analogy extends any further than this, that both inferences are, on our author's showing, founded "neither on reason nor on experience,"

but are "non-rational," "instinctive," or the deliverance of some "deep pre-rational instinct." This is almost as bad as resting the case on an "ultimate inexplicability." And it is strange that Professor Strong should have rested content with the appeal to a non-rational instinct for a belief he holds to be necessary in order to make the world "intelligible."

Bad arguments do not become sound by being repeated. I infer Gaius to be a rascal, for I hate him. I have neither reason nor experience to warrant the inference, but a deep pre-rational instinct guides me. Titus also arouses sentiments of hatred. He must therefore be a rascal too, for — the cases are exactly analogous. Analogy with an inference based neither on reason nor on experience is nothing to brag of. By this sort of reasoning almost anything might be established. A believer in witches and warlocks might argue thus. *Their* existence is not proved by reason or by experience, but a non-rational instinct is enough, and he feels that they are necessary to make his world "intelligible." If, however, the world is in truth made intelligible by any hypothesis, reason and experience must supply its grounds. The method which Professor Strong employs in this part of his work is a dangerous one, and above all to be deprecated in philosophical discussions. Such a procedure simply confuses the issue. More or less plausible, but logically unsound, reasonings may be adduced in support of any view whatever. But the critical thinker should avoid these snares, which usually have no other effect than to bolster up pre-rational prejudices. So it seems to me that in the theory of things-in-themselves here set forth we have nothing but an attempted faith-cure of the ills of phenomenalism, — defining faith scholastic-wise as *voluntaria certitudo absentium*; and the "arguments" for their existence should be entitled *fides quærens intellectum*.

Having reached things in themselves, Professor Strong argues that they must be mental in their nature. "Since consciousness is the only reality of which we have any immediate knowledge, and therefore our only sample of what reality is like, we have no other conception of a reality" (p. 295). Moreover, "individual minds arise out of them by evolution." Unfortunately the argument proves too much; for our only sample is shorn of all that makes it significant in the process of simplification when we pass back to our progenitors in the hypothetical "simpler mental facts" corresponding to the "simpler physical facts" (the phenomena of physics and chemistry) out of which the brain process arises. Moreover, the unity which

Professor Strong assumes in this world of things-in-themselves is purely verbal, until we can explain how they are related, what their action on one another means, how we are to think it. We have called them all mental, by a somewhat violent hypothesis, and our mind is set at rest. But what should we say of a physicist who thought he had reached unity and continuity when of all physical occurrences he pronounced the word 'material' ! It does not help matters simply to say that these things-in-themselves together "constitute a single system, whose continuity and order are symbolized by the continuity and order of the physical world" (p. 346), unless we can intelligibly interpret this unity and continuity as it holds within the real or mental order.

Professor Strong calls his view "psychophysical idealism." It combines "psychological solipsism" with "ontological realism," and promises a solution of the problem of the relation of mind and body that will guarantee real efficiency to the mind, and, at the same time, deny its physical efficiency, that will therefore satisfy the demands alike of parallelist and interactionist. The resulting doctrine, however, while supposed to "preserve a formal parallelism," is in truth not a doctrine of parallelism at all, but one of "identity." Consciousness *is* the reality symbolized by the brain process. The brain process, as part of the physical order, is merely a phenomenon, and its reality consists in its being perceived. When actually perceived, the mental event of which it is the symbol has preceded it, and may therefore be spoken of as its cause. But, adds Professor Strong, "what if the parallelist, by the brain events which he asserts to be simultaneous with mental states, means not the perceptions but the events perceived, the only intelligible explanation of the latter being that they are events-in-themselves? What if the simultaneity he asserts is really between mental states and the real events for which the brain-events stand?" (p. 342). But these real events are the identical mental states in question. Hence, to keep the formal parallelism, the brain-event must be regarded simply "as the mental state itself regarded from the point of view of the perception," and then in truth we have "no parallelism, but a single series." I find it hard to carry out this doctrine, and it seems to me that the author himself does not succeed in doing so. Although we have done away with a "real parallelism," forthwith a phenomenal parallelism turns up. "One of the two series is not real but only phenomenal, it is a shadow cast by one consciousness on another or on its latter [later?] self, and having no existence apart from the two ; and the parallelism necessarily shares

the phenomenal character of its physical member" (p. 343). We have, it would seem, a sort of rivalry between our psychological idealism, and our metaphysical realism. Thus the symbol, the physical occurrence, is held not to exist save in being actually perceived, but then it exists no longer merely as symbol but as reality in the perceiving consciousness. The symbol comes into existence after the real event it symbolizes, and then it is itself a real event in another consciousness. We have thus only realities, and a single series, or a number of single series in the various perceiving minds. But, again, the brain-event is regarded as the "shadow" of the conscious state, which would seem to make its appearance simultaneous, and the parallelism returns. But, whichever way we take it, is not the whole problem as to the relation of mind and body still to solve? For that problem, even if subsumed under that of the relation of reality and phenomenon, still calls for an explanation of the latter relation. If the phenomenon, the brain-event, is the "shadow" of the mental event, the latter is thereby made at least its part cause; if the "symbol," its regular appearance in the wake of its reality, the conscious state, without some causal bond that reaches it *in its character as symbol* is just the mystery of the relation of mind and body. And if we reduce the parallelism to a single series, then the problem of the relation of mind and body is still on our hands in the fact that some of these realities are perceptions and common property, with a unity and continuity of their own,—and that, in spite of the fact that they are supposed to get their entire reality in many distinct and separate minds,—while others are not perceptions and are strictly private property; and the puzzle is how one group of these realities can act on the other which seems to be a closed system.

The solution offered may perhaps be symbolized as follows:  $A$  is angry at  $E$  and determines to strike him. Between his intention and  $E$ 's pain a number of physical occurrences intervene,—the outgoing current, the muscular contraction, the blow, the incoming current, etc. The series may be represented thus:

$$\frac{A}{a} b c d \frac{E}{e},$$

— $a$ ,  $b$ ,  $c$ ,  $d$ , and  $e$  being phenomena, and giving a continuous chain. But  $A$  causes  $E$ . How is this possible, with the gaps existing between them? We fill in the gaps by supposing the actual chain to be

$$\frac{A}{a} \frac{[B]}{b} \frac{[C]}{c} \frac{[D]}{d} \frac{E}{e},$$

— the bracketed capitals representing the realities, the things-in-themselves, of which *b*, *c*, and *d* are the symbols. But the case is not so simple as this. We have apparently for the old dualism a continuous distinction between substance and shadow. But these would-be shadows, as entering into some consciousness or other, are 'real,' — are entitled to capitalization in our formula. Their degradation to 'lower case' is the result of a sort of metaphysical illusion. *b*, *c* and *d*, as they actually are, are mental states of egos active in *A* and *E*, and of any other consciousness that may happen to experience them. Only after we have first ejected them from the mind and given them a kind of spurious independent existence, do we feel the necessity of in some way regarding them as representing their own particular realities (or things-in-themselves). Yet it is this very illusion that makes the gap which Professor Strong invents his things-in-themselves to fill. In reality, the gap does not exist; and, if it did, to fill it by assuming, corresponding to the intervening events in the physical series, things-in-themselves *B*, *C*, and *D*, is to satisfy the passion for continuity with a name. The continuity between *A* and *E* via *B*, *C*, and *D* remains unintelligible, even if we conceive *B*, *C*, and *D* after the analogy of consciousness. It is as if Arthur, wishing to communicate with Edgar, Arthur's familiar (his brain-event, *fidus Achates*), should touch Bob's familiar, who should stir up Charles's familiar, who should arouse Dick's familiar, who should awaken Edgar's familiar, when lo! Edgar is appraised of Arthur's resentment. But why shouldn't Arthur go straight to Edgar? Or, if there must be real, as well as phenomenal go-betweens, why should they not, being conceived after the analogy of consciousness, enter into the game as other consciousnesses do? Professor Strong makes the gap that occasions the difficulty, and that because of his inadequate conception of the ego, and, in general, of idealism. The ego, he holds, is not in space. Is it any more truly *in* time?

Perhaps philosophy would make surer progress if philosophers would more frequently detach problems, as Professor Strong has done, and give them separate and exhaustive treatment. And I think this is the main value of this work. It brings clearly to light the many difficulties involved in the problem considered, and should at least have the negative value of putting an end to such superficial solutions of the issue as are generally met with in the discussions of philosophers who lightly settle the matter with a few passing comments. It may indeed be that a whole system is involved in the attempt to work out any serious problem. No matter for that. It will be more likely to be



one, and not several conflicting systems, if a single problem is held persistently in view than if one indite a book *de omnibus rebus*. Professor Strong's book also, it seems to me, brings out very clearly the needs that must be met before we can expect to find a satisfactory solution of the problems that it considers. Some of these are: a deeper discussion of the basis of the inference to other minds, and of the meaning and method of the action of mind on mind, and thus of the significance of the unity and continuity in the world of mental realities; a fuller investigation of the nature and the import of the 'transcendence' involved, as the author rightly points out, in memory and perception, as well as in our knowledge of other minds; a more comprehensive treatment of idealism, consciousness, and the ego; and a more searching examination of the notion of causality.

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*Outlines of Psychology.* An Elementary Treatise with Some Practical Applications. By JOSIAH ROYCE. New York, The Macmillan Co., 1903. — pp. xxvii, 379.

It goes without saying that Professor Royce's book is a fresh and independent treatment of psychology, rich in suggestion. In his introductory chapter on "Definitions and Explanations," he first admirably states the difference between the inner psychical facts and the outer facts, which are "public property," and then—in the opinion of the present writer—rather overstates the social and 'descriptive' nature of the science of psychology. The chapters which follow, on the "Physical Signs of the Presence of Mind" and on "Nervous Conditions," include nothing new except a statement of Loeb's conception of the 'tropism' and the suggestion (later to be developed) that the tropism may be treated as a parallel to some psychic fact. As "General Features of Conscious Life," Royce next considers, very effectively, the unity and the variety of consciousness, "the fact that at any time whatever is present tends to form an always incomplete but still in some respects single conscious condition," and the "equally obvious fact" that "the one conscious state of the moment is always a unity consisting of a multiplicity." The chapter concludes with a criticism of the theory that "our total mental state is . . . a unity consisting of certain ultimate sensations and feelings that we cannot ourselves detect except indirectly." To the present writer this criticism seems unnecessary, because the 'mind-stuff' hypothesis, which it opposes, so long ago slipped out of psycho-

logical systems. The psychologists nowadays still talk of conscious elements; but every one of them would agree with Royce, that an element is an abstraction, that "analysis alters the consciousness that is analyzed," and that "for any ordinary state of consciousness an analyzed state or series of states may be substituted."

From this point onward, the book discusses phenomena of consciousness on the basis of a 'tripartite division,' not indeed the traditional division into feeling, knowledge, and will, but a classification under the three heads, — admirably chosen from the standpoint of pedagogical application, — of sensitiveness, docility, and mental initiative. The study of sensitiveness is defined (p. 117) as "a statement of the principal kinds of states of consciousness that occur within the range of our psychical experience . . . with especial relations to the sorts of physical conditions on which they depend." The study of docility proves to be a discussion of "the relations that bind the consciousness of any moment to previous experience." The study, finally, of mental initiative is a consideration of "the factors that make possible . . . variation of our conduct and of our mental processes."

It becomes at once evident to the reader that the discussion of sensitiveness, that is, of "principal kinds of states of consciousness," is Royce's equivalent for a study of the conscious elements. It is not, however, a part of his plan to consider these in any detail, except as they offer especial features of practical interest. He groups them under the three heads: sensory experience, mental imagery, and feelings; and, so far as the first two classes are concerned, offers within the limits of forty pages a very successful sketch of fundamental facts concerning sense-experience and mental imagery. Of especial value is the treatment of extensity as an attribute of sensation, a "primitive character upon which our developed notion of space is founded" (p. 140). The physical parallel of the sensory consciousness of extensity is well described as "reaction of orientation." Significant, also, is the emphasis laid, throughout the discussion of mental imagery, upon "the connection between sensory images and our motor response to our environment" (p. 159).

By far the most important chapter in this division of the book is that which discusses the feelings. Professor Royce here proposes the hypothesis of at least two relatively independent 'dimensions' of feeling and at least four kinds of feeling: feelings of pleasantness and unpleasantness, and feelings of restlessness and of quiescence. These two pairs of opposed feelings may be variously combined: "There

are sufferings which leave us relatively quiescent, while there are sufferings which are accompanied with vigorous restlessness (p. 182). . . . On the other hand, pleasure may be of the restless type . . . although we like what we have, we are dissatisfied with the situation, and restlessly seek for more" (p. 183). The description and illustration of these "mixed feelings" form one of the most significant portions of the book.

This chapter concludes the enumeration of "the kinds of conscious experience," and therefore provides a convenient place for comment. The first question which suggests itself concerns the completeness of the enumeration. One is surprised to find that the book contains no analysis of the consciousness of relations. In a later chapter, to be sure, the feeling of familiarity is incidentally mentioned, but it is then too summarily assigned to the class of "feelings of quiescence." Again, the chapter on "Differentiation" discusses the "consciousness of difference," but only in its genesis through repeated, yet partially varying, experiences. No thorough analysis of the content of the consciousness of relation is offered.

With reference, in the second place, to the consciousness of quiescence and that of restlessness, the present writer ventures to question the propriety of classing them with the "feelings." That they form a significant part of experience, and that they are constantly combined with the consciousness of pleasantness and of unpleasantness, Dr. Royce has abundantly shown; but to the writer they seem to be contrasted with the life of feeling as the active to the passive, and to be more plausibly described as aspects of will and belief.

The chapters on "Docility," study perception, memory, and thought, with constant emphasis upon the imitative function, — the tendency to repetition, not only of one's own past experience, but also of other conscious selves. The social nature of consciousness and the close and essential connection between consciousness and motor reaction are the most significant features of these chapters. It may be questioned whether the very interesting discussion of generalization, judgment, and reasoning, — first, with reference to the motor reactions which they involve, and second, as results of social conditions, — offers an entirely adequate or complete analysis. The chapter on "Differentiation" considers a result, rather than a form, of docility.

The highly suggestive chapter on "Mental Initiative" disappoints the reader because of its brevity and its almost exclusive concern with the biological and physiological conditions. "The basis of all initiative," Royce supposes (p. xxiii), "are to be found in 'tropisms'

that lead to a restless persistence in types of action which are not yet adaptive," and "the power to learn decidedly new variations of our habits will usually depend upon . . . our disposition to persevere either in repeating with variations the particular acts that have so far proved abortive, or in searching elsewhere . . . for a chance solution of our problem."

This discussion of "the apparently spontaneous variations" in consciousness brings the book, as outlined in the preface, to an end. Two chapters are, however, added, consisting for the most part of a collection of practical inferences from the study of abnormal emotions, of intellectual disorders, and of "abnormities of volition."

It should be added that Professor Royce has throughout defined with admirable precision the line dividing scientific psychology from philosophy, and that he has kept scrupulously to the psychological side of the line. Not every treatise on psychology, whether written by professed philosopher or by avowed scientist, merits this commendation.

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## SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Am. J. Th.* = *The American Journal of Theology*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Int. J. E.* = *International Journal of Ethics*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mét.* = *Revue de Métaphysique*; *Rev. Néo.-Sc.* = *Revue Néo-Scolastique*; *R. d. Fil.* = *Rivista di Filosofia e Scienze Affini*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Psych. u. Phys.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*.—Other titles are self-explanatory.]

### LOGIC AND METAPHYSICS.

*Erkenntnistheoretische Auseinandersetzungen. 2. Schuppe: Der naive Realismus.* TH. ZIEHEN. *Z. f. Psych. u. Phys.*, XXXIII, 1 u. 2, pp. 91-128.

A comparison of the epistemological theories of Schuppe and of Ziehen is difficult, because that of the former is worked out from logical grounds. Both philosophers, however, agree with Avenarius in rejecting the theory of introjection. Perceptions are given in space, not projected into an empty space. Schuppe makes ideas dependent upon the immediate content of perception; but, contrary to Ziehen's view, regards the conscious ego as also a fundamental epistemological fact. He does not mean that the ego is found as a content of perception, but that it makes itself objective in the act of self-consciousness. In reality, however, we cannot discover this third factor together with the perception and idea. Schuppe admits that the subject exists only with its content; by itself it is an abstraction. But an abstraction cannot be a fundamental fact for epistemology. To neglect the significance of "content of consciousness" and regard it as a concept of a species which necessarily involves the concept of a containing "consciousness" is a *petitio principii*. Moreover, Schuppe's view presents further difficulties. He cannot show how the ego differs from the totality of conscious content, or that it maintains a real identity in its changing states. Necessity of thought is identified with reality. The genus is regarded as the ground of the species, and the actual development of general from specific ideas is neglected. The essential character of perceptions does not consist of the factors common to perception, but of the general ideas as such. Further, there is a tendency to overlook the dependence of these general ideas upon the particular thinker. In the impression we have three elements—sense quality, space determination, and time determination. The particular class separates from the species, while the individual is merely a union of specific elements. Schuppe's view is incorrect in making qualitative, temporal, and spatial determinations condition each other caus-

ally ; and also in giving to the elements an unmediated universality. General ideas do not result from isolating, but only from inclusive abstraction. The idea 'red' is capable of general application, but is not a general idea. The idea 'red thing,' on the contrary, is a general idea, but is not given immediately in perception. General concepts are not given independent of induction in a single experience of sensation, but are the products of a plurality of experiences. The thing-concept arises from the fact that our representations have been modified. Schuppe's opinion on this question has varied. Recently he tends to make thing-concepts less dependent upon general concepts. The important factors in the development of this concept, which he names respectively motion, individual spaces, and uniformity of change, are better termed contrast, continuous spatial extension, and continuous change. Schuppe neglects the epistemological significance of the physiological process of sensation. This process furnishes an important problem to any theory which denies introjection. He says that the ego, if it is to have concrete existence, must have the faculty of vision ; but he does not solve the difficulty. Ziehen finds that the analysis of perception discloses two laws. The one corresponds to the causal law of natural science. The other he names parallel, or reaction law. According to the latter, every psychic process corresponds to a particular excitation of the individual brain, and consequently *ceteris paribus* to a determinate stimulus. Every perception is a resultant of these two laws. By the elimination of the individual reaction we reach the reduction elements. The reaction law is a fact, and is inexplicable in the same sense that the laws of causality and of attraction are inexplicable. Schuppe is unsatisfactory in regard to the nature of unperceived existence. He equates that existence with the uniformity of the law according to which, when determinate conditions are fulfilled, it will be perceived. But his law is here a general concept. In reality, the analysis of the phenomenal world gives reduction elements and parallel components. The former do not cease to be psychical on account of the reduction. Merely the individual reaction of the individual brain has been eliminated. Schuppe is correct in regarding the thing in itself as a concept without a content, but wrong in making causality an *a priori* law. He treats the problem of the plurality of subjects very satisfactorily. The ego is not spatially limited, and there is no reason to reinterpret the common view that different subjects perceive the same object. Differences in perception are reducible to physical or psychical factors in the individual. But in explanation of the characters common to perceptions, he unnecessarily refers to the generic standard of consciousness in general. The reduction element is not a generic concept, but the common substrate of individual perceptions. Schuppe did well to point to the significance of reflective predicates, since these refer to the great problem of the relation between subject and object. They cannot, however, be distinguished by their psychological content from other forms of predication. He thinks that the ego, by mak-

ing itself an object, displays its nature in a unique manner. But it really amounts to the same thing whether I say: "A rose is seen by me," or, "I see a rose." His view of the essential characteristic of a reflective predicate seems to have changed. At first, mental activity in the form of the simple spatial perception was sufficient; later, he demanded activity through logical reflection. Schuppe postulates a definite act which raises the nerve-affection to thought, or takes up the impression in its positive determination. In the process an unconscious principle of identity is active. This is not a subjective factor; and the psychological side of recognition is not relevant to the present problem. Ziehen, on the contrary, maintains that the question is one of fact. Further, all our perceptions are conscious. Perception wakens by means of associations. The idea of a positive determination in the impression is derived from the Kantian concept of apprehension. The principle of identity is merely an important relational idea; and it would be better named the principle of distinction or of similarity. Schuppe has not solved the difficulties of recognition; and his division of the epistemological factors into object, ego, and an apprehending, is unsatisfactory.

N. E. TRUMAN.

*Sur divers aspects de la mécanique.* G. SOREL. Rev. de Mét., XI, 6, pp. 716-748.

Reuleaux has attached an importance to the idea of the development of thought independent of material conditions and empirical investigation which is unwarranted by the facts of history. He speaks as if there is a ready-made body of logical thought which science must master in order to direct men in its practical application, when, as a matter of fact, there is no body of thought except such as is gradually developed from empirical solutions of practical problems. How closely the development of thought corresponds to material conditions and the instruments of investigation at man's disposal, is well illustrated by the astronomy of the Greeks, who were preëminently rational and mathematical, and whose principles were largely determined by cosmological conceptions not subjected to empirical verification. After this general introduction, Sorel traces the development of the idea of motion from the earliest animistic to the present mechanical interpretations. The Greeks recognized two kinds of force, muscular force, and force generated by a moving body. Four kinds of movement were formerly considered, circular, rectilinear, continued, and alternative. Huyghens first formulated a theory of falling bodies on the consideration of forces. Newton's theory is based on the law of inertia; he did not comprehend the spirituality of the force of attraction. Modern mechanics is based upon the law that, when the mass of a material point is multiplied by its acceleration, the product expresses force which can be determined by physical laws and geometrical principles. There have been three distinct sciences in mechanics: that which treats of central forces,

generalizing Newton's theory of gravitation, that which studies machines, and that which treats of elasticity. This last phenomenon is due to several causes, and has baffled the best scholars. E. C. WILM.

*The Limits of Pragmatism.* J. MARK BALDWIN. Psych. Rev., XI, 1, pp. 30-60.

This article defines the limitations of the view which regards thought, truth, and reality as relative to ends. The discussion is arranged as answers to three questions: (1) Are there realities apprehended apart from the cognitive function, or, at least, not adequately apprehended through it? If so, what is their relation to truth? (2) Are there any realities not yet discovered; and if so, what meaning do they have for us? (3) Are there any types of thought, or modes of treating reality generally, whose meaning is not exhausted in the statement of their pragmatic origin? In answer to the first question, Baldwin holds that pragmatism necessarily presupposes an environment which produces the tension in experience. In confining itself to the thinking principle alone, pragmatism commits the 'genetic fallacy,' because it has already depicted the genetic processes by which consciousness reaches the dualism of thinking principle and reality. Hence pragmatism must either admit the reality of an environment, and so entangle itself in the difficulties of a representational epistemology, or it must find some guarantee for the reality of mental principles not purely pragmatic. In regard to the second question, pragmatism holds that reality grows as it is actually discovered; and Baldwin agrees that the psychic movement does not postulate any more of reality than is given in the datum, that is, the real subject in any given judgment of value is only that which, as possibly real, already exists for action. He holds, however, that thought is a reflection of the habits of actions, an organization for future safe actions. This thought is static, and is useful precisely because it is static. As the reflection of all previous pragmatic gains, this logical reality is more real even than the concrete thought function. The third question is answered by showing that universal and normative modes of thought cannot be adequately justified by the mere criteria of concrete experiences. Yet the pragmatist cannot deny the validity of these modes, because of their value as organizing principles of experience. Hence pragmatism is a genetic theory to explain the origin of the thought function, not a logical theory to explain its validity. In the light of this criticism the problem of philosophy becomes the reconciliation of the two opposed schemes of valuation: logical systematization and practical manipulation.

GEORGE H. SABINE.

*Phänomenalismus und Realismus.* ELSE WENTSCHER. Ar. f. sys. Ph., IX, 2, pp. 195-225.

For the comprehension and refutation of Freytag's polemic against phenomenalism (*Der Realismus und das Problem der Transzendenz*, 1902),



an explication of the latter's standpoint is necessary. Phenomenalism, then, as represented by Erdmann, postulates the real as unknowable; otherwise, the real must be given in experience, or must be reached by transcending experience. Nevertheless, that the real *is*, we know, since the phenomena of perception are necessarily and apparently objectively given alike to all; that it also works according to some law we know. Evidently, under such conditions, a representative theory of knowledge is impossible; even granting that the phenomenal might be a copy of the real, the knowledge of such a state would be unattainable. But the proved 'synthesis' of the forms of the understanding with the raw material of sensation obviates even this remote contingency. Now, against such a phenomenalism F. prefers two main counts: (*a*) that phenomenalism is in contradiction with itself; (*b*) that it can never be reconciled with the sovereignty of natural law. In general, F. merely misinterprets E.; in urging against phenomenalism that by postulating the real as a 'cause,' it has "unconsciously become complete realism," he has ignored the fact that the recognition of a noumenal cause does not preclude the unknowability of both that cause and its method of working. He himself admits: "Though I know that *A* causes *B*, yet do I not know that *A* is like or unlike *B*; above all, I do not know *A* in itself." In the second place, although all the "natural laws" be in their sphere valid, yet it does not follow, as F. contends, that this is so only on a realistic hypothesis. F. has not probed the question. Indeed, as the quotation above indicates, his charges recoil on his own head. He predicates the phenomenal as the real and the knowable; on the other hand, he grants the subjectivity of our sense-impressions, even of those corresponding to the Lockean primary qualities. He demands for the outer order an objective validity and attacks idealism; contrariwise, he concedes that in the understanding 'perception' becomes metamorphosed. Finally, *he* it is whose presuppositions fail to harmonize with the validity of natural laws; the transcendent cause of these causes removed, nothing is left for him save a theory of 'preëstablished harmony.'

ARTHUR J. TIETJE.

#### PSYCHOLOGY.

*Sur la valeur des questionnaires en psychologie.* TH. RIBOT. J. de Psych., I, 1, pp. 1-10.

Ribot distinguishes two forms of the questionnaire method: (1) The indirect method, in which answers are asked in writing from a large and miscellaneous body of persons; (2) the direct or oral method. The first method is almost useless for psychology because of the extreme vagueness and heterogeneity of the answers. It presupposes the veracity of respondents, a presupposition which practically can never be guaranteed. Even the will to be sincere does not insure the veracity of the results. In such investigations, questions have frequently been asked to which reliable answers were quite impossible. When questions are published in periodicals,

those who answer are frequently the abnormal and unreliable part of the community. The oral method is capable of being applied only to a limited number of subjects, whose habits, education, social standing, etc., must be thoroughly known in order to insure reliable results. It is much more reliable than the indirect method, but it introduces the personal equation of the operator. Especially in dealing with very suggestible subjects, it is necessary to use great care in propounding the questions. In general, it may be said that the questionnaire method is only auxiliary to real psychological procedure, and requires much closer criticism both of method and of evidence than has been used heretofore.

GEORGE H. SABINE.

*Les formes simples de l'attention.* G. RAGEOT. Rev. Ph., XXVIII, 8, pp. 113-141.

The task here set is to find the relation between the affective and perceptive elements which the author postulates in attention. The emotional state can accompany, but not cause, that attentive state which is a particular mode of perception. The distinction between the spontaneous and voluntary types is merely methodological: both have the same mechanism, and both are measures of intelligence in activity. Attention, which is mere absorption in an object, is efferent, disinterested, a 'monoideism'; where the one idea attended to is that of regaining or of retaining possession of this object, the attention becomes convergent and egoistic. The attention of the child is contemplation, the reflection of the adult is action. In producing the former state, the thought of utility plays no part, but in the latter, thinking is pragmatic and the standard is utility. The first condition of real intellectual independence is forgetfulness of self and of one's own organic life. Thus, attention, which contributes so largely to intellectual power, is very far from being conditioned by organic needs and demands. It is, in fact, best studied in the pure form in which it occurs in play, when the personality is entirely lost sight of. Animals which play most are the most attentive and intelligent. It is misleading to say that the child, through activity of imagination and attention, creates his own world: it is rather true that by attending fixedly to objects he identifies himself with them, he *is* the things themselves. Simple attention is 'pre-ideism,' an anticipatory attitude towards a perception in formation. Perception is a more complex phenomenon, a synthesis of present and past impressions. With this synthesis comes another form of attention, conditioned by the relation of memory to the present sensation. Association being now involved, the emotional element of attention appears for the first time.

ANNIE D. MONTGOMERY.

*L'association médiate.* H. PIÉRON. Rev. Ph., XXVIII, 8, pp. 142-150.

In investigating the existence of 'mediate associations,' negative results predominate. Yet most psychologists, relying upon personal experience,

continue to postulate such associations. Hamilton's mechanical explanation fails to explain; Wundt transposes the problem without solving it; Claparède searches and is unable to find any physiological explanation. But the matter can be conceived of psychically and intelligibly. The theoretical difficulties and experimental checks are due to certain persistent prejudices about association in general, and to the elimination of conditions indispensable to the appearance of the phenomena. In spite of the traditions of the English empiricists, terms associated should not be considered as simple elements, nor a train of thought as a chain: The latter conception is rendered inadequate by the possibility of choice or suppression of certain elements in the total idea. Actual consciousness tells us that absolutely simple psychic unities are abstractions; every mental phenomenon is a complex, a state. Association, instead of being reducible to terms of contiguity and resemblance, is a particular instance of the general law of psychic gravitation, a law of synthetic affinity (Janet) or of attraction and inhibition (Paulhan). An inducing idea may be aroused by an external stimulus, or by another induced image. The presence of mediate associations is frequently manifested in a reverie, in which sense impressions are interpreted in terms which do not correspond to the external stimulus. A subconscious idea tends to arouse a certain psychic element; but to the latter is attracted another element, which, being more interesting than the first, is attracted to the 'personal synthesis,' and so appears alone in consciousness. High degree of interest and sufficient rapidity of thought-sequence condition this substitution of the secondary for the primary element. Experimental investigators defeat their own purpose: (1) by defining the terms associated and so forcing the subject to choose and reflect, and (2) by trying to create contiguous lines of association, and so destroying the real affinities between conscious states.

ANNIE D. MONTGOMERY.

*La sensation du 'déjà vu.'* J. GRASSET. J. de Psych., I, 1, pp. 17-27.

The phenomenon to be explained is the feeling that a present situation has previously been experienced though it never actually has been. There are two essential elements of the phenomenon: (1) the recognition of an image, emotion, or a psychic state never experienced; (2) ignorance of the origin of the impression with which the present image seems identical. This condition is attended by mental confusion amounting frequently to actual pain. Grasset explains the phenomenon by supposing that there are two sets of psychic centers; the higher, whose action is conscious; and the lower, or subconscious centers. These subconscious centers possess memory and imagination, and accordingly may receive impressions from the outside and store them, or may form them in imagination. In either case, these subconscious processes may arise in consciousness and give birth to a feeling of recognition though the situation has not been consciously experienced.

GEORGE H. SABINE.

*Le sens du retour.* P. BONNIER, Rev. Ph., XXVIII, 7, pp. 30-50.

Several hypotheses have already been brought forward to explain the sense of direction by which animals are enabled to return to a distant home : (1) The return is accomplished by a memory of the route previously traversed. This fails to explain the cases of return in a straight line. (2) Various theories of magnetic disturbance in the semi-circular canals. These have been abandoned since the experiments of Fabre and Exner. In fact, no electrical apparatus can be discovered in those organs. (3) An acute sensitivity to various qualities of winds is sometimes held to explain the return of birds. Selection of favorable winds could only be made, if the desired direction were already known. (4) Theory of Wallace and Reynaud that the return is made by following in inverse order the odors observed on the way. This last hypothesis approaches most nearly the view of the author. According to this, the explanation is to be found in the sense of position possessed by man as well as by other animals. By this sense we locate the various parts of the body, objects connected with the body, and even distant objects like the door of the room. It is also this sense which enables us to remember the direction of a building in a strange city, even after many corners have been turned. In man, its seat is in the semi-circular canals ; in lower animals, the function is performed by various organs, always, however, by the impact of a movable part upon a fixed part. The end-organs thus excited record upon the cortex every movement in direction, force, and form. The registering of a series of successive displacements involves a constant orientation with the point of departure, and thus makes a direct return possible. By frequent repetition this memory becomes an hereditary instinct, as in migrating animals, incorporated in the nervous system of each individual of the species.

GRACE MEAD ANDRUS.

*De la controverse en biologie.* F. HOUSSAY. Rev. de Mét., XI, 5, pp. 537-572.

The writer maintains that the various controversies in the field of biology are due not to differences in knowledge of facts, but to the differences of standpoint from which the facts are approached and interpreted. Facts are easily manipulated, and the same data are used in support of contradictory theses. On none of the important points in biological theory is there more than an apparent agreement. The 'differences of spirit' are a source of endless conflict, and the violence and duration of the controversy are proportional to the generality of the subject in question. The qualified adherence of embryologists to the doctrine of epigenesis is an instance in point. The continual controversy between the men representing the 'static' and dynamic points of view is a pertinent illustration of this same 'difference of spirit.' M. Houssay supports his thesis by a rapid survey of the history of biology, in which the theories of eminent biologists on the

most controverted points are briefly outlined. In this way he treats the controversy over the origin of life with its opposed doctrines of 'genesis' and 'generation,' the problem of sex, the question of fixed species, the problem of individuality in biology, and the controversy over the opposed notions of preformation and epigenesis. On no one of these points is there universal agreement, though the same data are open to all investigators. Different men, working with the same material, have reached wholly different results, not only at the present day, but through the whole history of the science. There is usually a consensus of opinion in favor of a particular doctrine, as at present in favor of epigenesis and variability of species, but there are wide differences even among the avowed supporters of these doctrines. There seems to be no way to explain these different interpretations of the same data, except on the assumption that the various scientific constructions correspond to diverse intellectual types or to the presuppositions that accompany the adoption of a particular point of view.

C. E. GALLOWAY.

*The Place of Pleasure and Pain in the Functional Psychology.* WARNER FITE. Psych. Rev., X, 6, pp. 633-644.

The question whether pleasure and pain can be regarded as modifiers in a system which refers activity to instinct, leads to the more general discussion of their place in a functional psychology. Such a psychology regards the development of our activity as a process of modification of original instincts through interaction. All activity is primarily impulsive. Every instinct sets out to deal with an object; an instinct in the narrower sense reaches its goal unhindered; if checked by another, it becomes an emotional reaction whose activity is confined to the body of the agent. Reflection is the cognitive parallel to emotion, which is conative. According to the functional view, every process of consciousness begins with a conflict, which is both emotional and reflective, and ends with a coördination, which is both voluntary choice and conviction. Adopting the functional method of studying first the pleasures and pains of the most obvious mental activities, and then applying this analysis to all the other forms of pleasure and pain, the writer concludes that not only is conflict a condition of consciousness, but it is specially a condition of pleasure-pain. Pleasure is succeeding, pain failing in the process of resolving a conflict; when the process ends, there is no feeling of either kind. The conflict itself is regarded teleologically, *i. e.*, as brought about by the increasing demands of the life purpose as opposed to conditions that stand in the way of its realization. To establish the final validity of the functional hypothesis, this account of conflict must, by reference to physiological detail, be shown to apply also to the relatively passive pleasures and pains of sense, — a probability which many facts clearly suggest. In the experimental investigation of pleasure-pain, the 'method of impression' is scarcely practicable. The general culture of the subject and his condition just before the experiment

are the significant conditions ; that a given affective quality is inherent in a given sensation-quality is merely an assumption. Ethically considered, the functional view makes it impossible to regard pleasure as an end to be sought. The motive power of action is instinct, and the object implied in the instinct constitutes the end. Pleasure is not an active function, but an indication that the object is being attained in the presence of a difficulty. Pleasure, since it exists only while success is deferred, is irreconcilable with desire for the object.

ANNIE D. MONTGOMERY.

*The Influence of Accommodation and Convergence upon the Perception of Depth.* J. W. BAIRD. Am. J. Ps., XIV, pp. 150-200.

The first half of the article is occupied with a summary of previous theories of depth perception since Leonardo da Vinci. In the experimental investigation of the problem, it was found that accommodation and convergence *do* contribute to the perception of depth, — at least, in case of near objects. Hering and Hillebrand explain the perception of depth in binocular vision from the presence of double-images, and in monocular vision from a conscious impulse of will. Neither explanation is satisfactory. It is impossible to see how double-images can furnish an unequivocal criterion of nearer or farther. Nor is the ocular mechanism adjusted by a *conscious* impulse of will. Wundt's explanation is much more plausible. Indeed, the experimental results cannot be explained without the assumption of the presence and operation of *sensations* of accommodation and convergence. Wundt conceives space-perception to be a psychical synthesis, in which the muscular sensations fuse directly and do not come to consciousness as sensations, — save when they are extremely intensive. This conception enables us to explain the possibility of depth estimation even when we have no consciousness of sensations from the ocular muscles.

AUTHOR.

#### ETHICS AND ÆSTHETICS.

*Psychologie de la croyance en l'immortalité.* WIJNAENDTS FRANCKEN. Rev. Phil., XXVIII, 9, pp. 272-282.

This article discusses the psychological motives for the belief in personal immortality. The question of the truth of the doctrine is excluded. Such a belief may be philosophic, regarding immortality as the logical consequence of the soul's essential nature; or it may be purely religious, regarding it as the special gift of God. The belief in God and that in immortality have the same origin ; in fact, there can be no religion without the sanction and support of the belief in a future life. Both beliefs arise in large part from the desire to see the imperfection of the present corrected and atoned for. But we find that in Buddhism, as originally taught, the good to be striven for was rather the annihilation of personality ; and Confucius taught nothing of immortality, doubtless because he wished to focus the moral interest of

his disciples on this present life. Such examples show that a strong desire for personal survival after death is essential for the origin and maintenance of a belief in immortality. Where this desire is lacking, the belief will be lacking also. This desire is but another form of the natural search for self-preservation. If our life is unhappy, we hope for another which will be happy; if it is happy, we hope that death will not end it. This hope we extend to those dear to us; but the image of the future life will vary with the individual, — the Northman's Valhalla is not the Mohammedan's Paradise. But the desire to live is not the sole source of the belief; another source is the power of the imagination, especially as seen in dreams. This is especially operative among primitive peoples, whose vivid dreams of the dead are a powerful persuasive to such a belief. By a contrary path extreme scepticism may lead to the belief. Men regard this life as a fleeting and deceptive dream; religious feelings in connection with this thought arouse the hope of an awaking in which its enigmas shall be solved. Another motive is the connatural appeal of dualism as a theory to men at large; the body wastes away, but the soul remains. And not the least important is the moral motive, the revolt against the apparent injustice of this present life, and consequent expectation of future compensation. Many could not lead a thoroughly moral life without this hope. This sentiment is at the foundation of the Buddhistic doctrine of 'Karma.' Just as many minds feel forced to believe in a fundamental order in the physical world, in spite of the multiplicity of phenomena; so others are forced to believe in universal moral order, and not seeing it realized in this world, to conceive a supersensible world as a postulate. And finally, as a motive which is perhaps less weighty in logic, but of great moral value, and confined to a small number, we find the desire for moral perfection, for an opportunity in a future life of closer approach to the moral ideal.

EDMUND H. HOLLANDS.

*Relativity and Finality in Ethics.* T. C. HALL. Int. J. E., XIV, 2, pp. 150-161.

A need is universally felt for authoritative criteria of conduct which possess abstract infallibility. Though relativity in other spheres of knowledge is accepted, it fails to satisfy in the sphere of duty. The sense of oughtness in the child is first awakened by training, and takes form in obedience to parental commands. Such obedience gives rise to a desire for infallible ethical authority in the tribe, and the sense of being bound by unrationalized obligation is the essence of primitive morality. If the sense of duty be necessary to human progress, how discover finality for it? The social advantages of symbols of abstract authority in counteracting selfish motives are patent; but, as these disappear, the sense of duty must be cultivated without them. Where individual and group interests clash, unreasoned racial impulses must afford guidance. Historically, religion has shown, and will continue to show to men the value of obedience to duty, as

experience will prove what is useful. This demands insistence on finality of moral obligation, but relativity of ethical knowledge.

FRANK P. BUSSELL.

*The Toleration of Error.* E. RITCHIE. Int. J. E., XIV, 2, pp. 161-172.

The present tolerant attitude of educated men toward ideas believed erroneous is significant. Present day leadership is effective only if it be broad and judicially minded. So, too, in the world of moral ideals. The consciousness that another's views, even though erroneous, may yet do more of good than of harm has insured them a respectful hearing. The personal point of view is emphasized, and it is admitted that each has his own view of truth. Such an open-minded attitude is especially noticeable towards religion. All theological dogmas are logically inconclusive. Each man has his own way of approaching spiritual truths. Diversity of mental types is a mark of progress. That only has spiritual value which nourishes one's inner life, and, since concrete personality alone determines value for another, we must not outlaw his opinions even though they oppose our own. Does such recognition of subjectivity imply indifference to real truth? The danger lies, rather, in considering justifiable the holding of any opinion whatever. True toleration regards each man's view of reality as final for himself, though his view be not equally clear and the adequacy of his philosophy indicative of his mental and moral status.

FRANK P. BUSSELL.

*Proverbial Morality.* R. A. DUFF. Int. J. E., XIV, 2, pp. 172-179.

Proverbs are the first expressions of reflective morality. They are generalizations of typical instances, hold universal sway, and for many men form a supreme moral code. Proverbial literature consists chiefly of critical and judicial maxims of caution and restraint. These are not general truths, but by metaphors embody general ideas in particular cases. Their only proof is the image used, and, since their application is particular, maxims may be inconsistent or antithetical, the difference of metaphor hiding the opposition. Maxims reflect the many-sidedness of life with its contradictions and perplexities. They have aided in developing the moral consciousness by keeping men's thoughts and volitions steady, and, as stimuli to thought, they have had great value.

FRANK P. BUSSELL.

*Les principes de la morale positiviste et la conscience contemporaine.* G. BELOT. Rev. Ph., XXVIII, 12, pp. 561-591.

The moral philosophy of A. Comte, although less well-known than the scientific, was regarded by him as the central part of his system. Its continued importance is due both to the slow development of morality, and to Comte's own moral character. His very ignorance of critical problems is



here an advantage ; for ethics, unlike science, needs no basis other than the human will. Hence, by ignoring metaphysical questions, he escapes many errors common to moral philosophies. Further, Comte's aversion to the scientific method is justifiable in ethics, where the task is to organize action rather than to explain the given. The supremacy of humanity reconciles individual freedom and subjection to law ; for the individual attains freedom only in so far as he incorporates himself with humanity by voluntarily submitting to law. Altruism as a moral law can be justified only by assuming it to be innate in man. The family, division of labor, and intellectual progress, however, have aided its historical development. The religion of humanity is to complete the subordination of egoism, by investing altruism with the dignity and authority of its ceremonial. In the substitution of the idea of universal duty for that of individual rights, Comte has not shown himself in sympathy with contemporary thought. The individual, however, is not entirely sacrificed to the group. His incorporation in a system is really for the sake of individual development. Since the discipline thus involved is voluntarily submitted to, responsibility is made the basis of morality. Comte attacked only the absolute right of the individual. All state control is to rest on universal consent, and to follow moral and intellectual regeneration. While Comte's failure to distinguish between individual and social morality is, perhaps, opposed to current ethical theory, it is his religious system which is most alien to modern thought, owing to the artificiality and arbitrariness of its ceremonial. But if neither his political, moral, nor religious system can be accepted by modern thought, they can be of the utmost service to it, supplementing its critical spirit by their dogmatism, and teaching a greater devotion to the spiritual life.

GRACE MEAD ANDRUS.

## NOTICES OF NEW BOOKS.

*Studien zur Werttheorie.* Von ROBERT EISLER. Leipzig, Verlag von Duncker & Humblot, 1902. — pp. xii, 112.

A study of the history and of the philosophy of art led the author to take up the problem of the general theory of value; and the result of his reflection is to be found in this brochure, which contains five essays: I, The Problem of a Law of Motivation; II, Formal Analysis of the Historical Process and Introduction of the Concept of Value; III, Value as a Quantitative Concept. Measurement of Values; IV, The Psychological Correlates of the Historical Process; and V, The Theory of the Judgment of Value. The solution of the general problem involved in the theory of value is found in biological and not in psychological terms. Neither the common sense view that value is a quality belonging objectively to external things, nor the psychological view that it is the pleasingness or the desiredness of things is accepted as satisfactory. Although the author uses such expressions as 'voluntative' and 'acts of will' in stating his doctrine, these terms are used "without any reference to the traditional psychological content of these concepts. What is meant is always only the process in its biological significance." A voluntative reaction is merely the change that takes place in a 'biological individuality,' when reacting upon an environment. Thus if, upon the approach of a heated object, I withdraw my hand, this withdrawal is a 'voluntative reaction,' even though it takes place without any intervention of consciousness. The fundamental thesis that is propounded is found in the following sentence: "We say that a definite complex of phenomena is evaluated when its realization appears as dependent upon the 'voluntative' action of a biological factor; and we ascribe to it a positive value when its realization appears as brought about by the activity of the subject in question, a negative value when its realization appears as voluntatively inhibited" (pp. 23-24). It should follow that if, while standing upon the edge of a precipice, I am startled by a sudden noise and topple over, the fall has a positive value as compared with the experience of hearing the noise. This theory is beautifully simple and removes all possibility of difficult complications, only what is meant by value does not seem to correspond in the least with what is usually meant by that term.

The book, however, is not without its value even to one who declines to consider his biological reaction upon it as definitive. For instance, the fourth essay is a very interesting and in many respects convincing discussion of an important psychological question, that of the will.

It may be a lamentable weakness in the reviewer's make-up, but he must confess that the introduction of mathematical formulæ into a discus-

sion where no mathematical operation is performed that facilitates and abbreviates the task of understanding the facts, has as its 'psychological correlate' the sense of extreme weariness.

EVANDER BRADLEY MCGILVARY.

CORNELL UNIVERSITY.

*The Possibility of a Science of Casuistry.* By ERNEST NORTHCROFT MERRINGTON. Sidney, Angus and Robertson, 1902. — p. 58.

The title of this little volume indicates clearly the question which the author discusses. Casuistry is recognized as "a neglected branch of moral study" (Preface), and it would seem therefore idle to revive it only to show that it has no place in the land of the living, but this is what the author does. Fortunately, however, he gives it only fifty-eight pages of a renewed life, which is all spent in philosophical court. The arguments in favor of giving it a new lease of life are heard, but then the counsel for the plaintiff brings forth Objections to the Presupposition of such a Science, Objections to the Claims of Casuistry to Scientific Method, and Objections to the Practicability of such a Science. The gist of these arguments can be got from the following quotation: "It is just because man is a free, aspiring, and self-conscious agent that a moral science is needed. Therefore to bind his moral and spiritual life to a mechanical system of dead rules is to annul his high vocation and unspeakable glory. It is equivalent to degrading him to the level of a non-moral being, and therefore it dispenses with the necessity for a moral science. Thus even the method of Casuistry involves self-contradiction" (p. 47). Finally the defendant is condemned to a second death, and the reader of the booklet is shown "the more excellent way." "The best loyalty, the best devotion, the truest service is that prompted by a loving heart." Love to God and love to man "cannot be separated in a truly balanced life. In Christianity as taught by its Founder, and expounded by the Apostle of Love, and the Author of the Chapter on Love in the First Epistle to the Corinthians, the union of Morality and Religion is perfectly accomplished, and in Love absolute harmony is reached" (p. 57).

EVANDER BRADLEY MCGILVARY.

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*Principles of Western Civilization.* By BENJAMIN KIDD. New York, The Macmillan Company, 1902. — pp. vi, 538.

As Mr. Kidd looks upon himself as the champion, and almost the pioneer of a new political order, he has an unreserved enthusiasm for the era which is about to dawn, and a criticism, almost equally unreserved, of the views which have hitherto prevailed. "Systems of theory that have nourished the intellectual life of the world for centuries have become in large part obsolete. They may retain for a space the outward appearance of authority. But the foundations upon which they rested have been bodily undermined. It is only a question of time till the ruin which

has overtaken them will have become a commonplace of Western Civilization" (p. 13; for similar utterances see pp. 82 and 140).

Relying upon the "evolutionary hypothesis," and accepting in the main the views of Weismann (pp. 31-67), Mr. Kidd concludes that the principle of evolution is "efficiency in the future" (p. 53), or "projected efficiency" (p. 65). "In the struggle, as we now begin to see it, the interests of the individual and the present alike are presented as overlaid by the interests of a majority which is always in the future" (p. 53). Having accepted, or rather formulated, this principle, Mr. Kidd applies it directly to society as a political ideal. Accordingly, a survey of political history (Chaps. VII-IX) seems to him to prove that, "in the struggle the winning conditions are those of a people who already most efficiently bear on their shoulders in the present the burden of the principles with which the meaning of a process infinite in the future is identified" (p. 345); and, "in the development in progress under our eyes in Western history, we are regarding the main sequence of events along which the meaning of the cosmic process in human history is descending towards the future" (p. 398).

The very vagueness, as it seems to me, with which Mr. Kidd uses such words as "process," "development," "the future," etc., (notice the phrase "the process which is in progress in the evolution of society," p. 146, and the marvellous sentence quoted above from p. 398), makes an appeal to the imagination. Just now it is a very popular belief that we are all "travelling upward to Zion," and that somehow great things are in store for the race. On this popular idea, indeed, Mr. Kidd, I think, leans for support, and at the outset it is necessary to examine into its value.

The power of self-criticism (regarded by Plato, Aristotle, Descartes, Kant, and indeed all philosophers, as belonging to the very nature of mind) carries with it the power of enlargement or expansion of mind. Mr. Kidd thinks that this conception of enlargement is due to the discovery of evolution; but it is in fact as old, or almost as old, as philosophy, and was even declared by Plato to make science and philosophy possible.

When this radical fact of self-criticism is expressed (inadequately, I believe) in terms of time, there arises the doctrine, attributed by Mr. Kidd to evolution, that the present ought never to be ascendant but always subordinate to the future. Not the truth, but only the inadequate expression of it, comes under scrutiny here.

The 'future,' strictly taken, is necessarily future. It is not Heaven, since in course of time Heaven becomes present. The future is Heaven *minus* all but the time factor; hence, to realize the future, *i. e.*, to make the future a present reality, is a contradiction in terms. The future, strictly considered, is not therefore a conceivable ideal, and gets a secondary value by the presence of elements illogically thought into it.

It would seem as if Mr. Kidd were himself aware of the abstract character of the merely future, and therefore speaks of "the future and the universal" in contrast with "the individual and the present" (pp. 58-59),

and identifies the future with the "interests of the majority" (p. 65). But if mere length of time constitutes universality, the past has equal claims to universality with the future, and as to a "majority," it is clear that an ideal is not a mathematical quantity. Whereas, if we are to discuss what is meant by "interests" in the phrase "interests of the majority," we set aside the contrast of present and future, and are "transported back" to the "pre-scientific epoch" in which philosophers inquired into the good of man as man. But to open up such an inquiry is to set aside all the principles regarded by Mr. Kidd as characteristic of "Western Civilization."

Mr. Kidd, in his brief review of the political theories of English philosophers, feels "profound surprise" as he reads in Burke the remark that "the State ought not to be considered as nothing better than a partnership agreement in a trade of pepper and coffee, calico or tobacco, or some other such low concern. . . . It is a partnership in all science, a partnership in all art, a partnership in every virtue and perfection." Burke belongs to the "prescientific epoch," it is true; but seems to be ranked by Mr. Kidd as an exception. It would not be difficult to parallel Burke's view from Plato, who thought that in discussing the state he was discussing justice, or from Aristotle, who thought that the best citizens were partners in all science, art, statecraft, and wisdom, or from Hegel, the Burke of Germany, who subordinates trade and commerce to the higher interests of the citizens. Hence it is open to us still to think the true prophets in political theory to be those who, like all the greatest thinkers, look not into the future or into the past, but down to the bottom of what is before them.

S. W. DYDE.

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*Das Problem der Willensfreiheit in der neuesten deutschen Philosophie.*  
Von LEO MÜFFELMANN. Leipzig, Verlag von Johann Ambrosius Barth,  
1902. — pp. 115.

The reader will find this book a rather characteristic product of German scholarship. As the title indicates, it contains a summary account of the views of modern German thinkers concerning the problem of the freedom of the will. It also offers a statement of the questions at issue, a brief review of the main positions taken in the history of thought, and some critical discussion intended to define the writer's own attitude.

Dr. Müffelmann contends that the problem is not of such fundamental importance as has often been represented, and that the possibility of ethical life and thought cannot be made dependent upon it. He denies the statement of Mach that "the problem of the freedom of the will is a complete touchstone of one's total conception and view of the world," and that of Du Bois-Reymond that "the stages of the development of human thinking are clearly mirrored in the treatment of the problem of freedom." In

support of this contention, he urges that we often find the same general views of the world allied with different solutions of the problem of freedom, that some philosophers of high rank have only touched this question in passing, while in the systems of many thinkers it plays no rôle whatever. Undoubtedly there is a certain truth in this view, but one might freely admit the propositions offered in support of it without accepting the conclusion. A neglect of the problem might very well be otherwise explained, as *e. g.*, by the special view-points taken by different thinkers, or even by the admitted imperfections of those systems in which a discussion of this problem finds no place.

The brief historical review extends from the period of Greek philosophy, in which the problem of freedom "did not attain to any real significance," to thinkers like Hegel, Herbart, and Schopenhauer. Proceeding with later German philosophy, the author first presents Indeterminism. Lotze is naturally made the great representative of this view, and with Lotze his disciple Hugo Sommer. Considerable attention is also given to the detailed exposition of indeterminism very recently given in Wentscher's *Ethik*, (1902). The next section is devoted to "Intelligible Freedom." Kuno Fischer's interpretation of freedom is placed here, although it is acknowledged that he tends strongly to determinism. The author finds not a little difficulty in defining the limits of Fischer's deterministic and indeterministic thought, but concludes that it is to be assumed from his whole conduct of the discussion that he places freedom in a "non-temporal choice of character." Other representatives of intelligible freedom are Eucken and certain disciples of Schopenhauer, Lamezan, Mainländer, and Bahnsen. Succeeding sections deal with "Indeterminism in Catholic Philosophy," "Agnostic Indeterminism," and "Indeterminism in Penal Law and Theology."

Only five or six pages are devoted to fatalism, and the only names which appear in the text are those of Haeckel, Paul Rée the positivist, and Nietzsche. A footnote points out what every student of Nietzsche's works must have felt, viz: that at different periods he took varied and even opposite positions on this question.

From the long list of writers who take in common a deterministic view, but among whom there are still wide differences in the conception and statement of the problem, the author selects among others, Sigwart, Wundt, Hartmann, Paulsen, Lipps, Simmel, Külpe, Ziehen, Riehl, Windelband, Adickes, and Natorp. In the case of Sigwart and Wundt, Dr. Müffelman finds an "indeterministic residuum" which forbids one to class them with the pure determinists. He therefore gives them the apparently contradictory title of "indeterministic determinists."

The author's own view is deterministic. The principal part of his defence of the theory is found in the section devoted to indeterminism, where he subjects to brief but detailed criticism the arguments of Lotze, Sommer, and Wentscher. The constructive part of the work would have gained in force,

if it had been given an independent place. The chief service of the book will be found in the material which it offers, both in the expositions and references, to students who desire an orientation in German thought on this much-debated problem.

W. G. EVERETT.

BROWN UNIVERSITY.

*The Moral System of Shakespeare : A Popular Illustration of Fiction as the Experimental Side of Philosophy.* By RICHARD G. MOULTON. New York, The Macmillan Co., 1903. — pp. vi, 381.

In *Shakespeare as a Dramatic Artist*, Professor Moulton made one of the most noteworthy contributions to Shakespearian criticism of this generation. The principles there stated and illustrated he now applies in his most recent work to the interpretation of certain problems of the moral life as represented in Shakespeare's plays. The title he has chosen, "is not intended to suggest that the man Shakespeare had formed in his mind a certain system of morals, which he proceeded to put into his plays." It concerns itself in no way with the opinions of the dramatist on ethical problems, if he had any such opinions, but confines itself exclusively to the life that he saw and described. What theories can we draw from the data which he supplies? is the only question that is anywhere raised. That these data are of unrivalled value, that the examination of them affords us a well-nigh infallible means of testing our own conceptions of human nature, is the fundamental conviction on which the book is based. "If any student," writes Professor Moulton, "has a system of psychology and ethics which will not bear confronting with the life revealed by Shakespeare, it might be well for him to doubt whether his system may not be one-sided, rather than that the insight of Shakespeare should be antiquated." Unfortunately this unassailable contention is followed by the untenable assertion that fiction stands in the same relation to such disciplines as history and ethics as does experimental to merely observational science. Obviously the formation of the hypothesis which leads up to the experiment is here confounded with the reading off of the results of the experiment. However, little use is made of this conception in the course of the work, and none of the author's conclusions depend for their validity upon its acceptance.

Out of the broad field open to the explorer two problems have been selected, the discussion of which occupies the larger, and, for the student of philosophy, the more interesting portion of the book. They are: the conditions favoring and hindering the self-expression of character, and the relation between character and destiny. Under the former topic are discussed the influence upon character of our own past volitions, of heredity, of circumstances, and of the supernatural elements in the plays. The "momentum of character" is exhibited by an analysis of the career of Macbeth; and, in this analysis, originality, depth of insight, and power to combine scattered data unite to form a masterpiece. The study of inheritance, on the other hand, is sketchy and imperfect; the broader

problem of the place of congenital endowment, or 'nature,' in its relation to 'nurture' is completely ignored, although Shakespeare supplies interesting material for its study; and the only thorough inquiry into the power of circumstances to mould character is confined to the special question of the influence upon personality of the supernatural beings in the dramas.

The study of the relation between character and destiny is conducted by means of an interesting and valuable analysis of plot. Professor Moulton exhibits the workings of retributive justice as they appear in *Henry VI.* and *Richard III.*; he retells and interprets the story of wrong and suffering followed by restoration that forms the theme of *Cymbeline* and *The Winter's Tale*; he shows how in *Henry VIII.* "outward" failure is compensated for by a gain in nobility of soul; finally, in a careful analysis of *Romeo and Juliet* and of certain portions of *King Lear*, he answers the question of Eliphaz the Temanite: "Whoever perished being innocent? Or where were the upright cut off?"

Besides the discussion of the above-named topics, the book contains many matters of less strictly philosophical interest upon which it would be a pleasure to dwell. In the controversial field of Shakespearian criticism no two students will agree at every point in their interpretation of a long series of characters. But Professor Moulton possesses so happy a combination of originality and freedom from the trammels of convention, keenness of vision and sanity of judgment, that the majority of his analyses seem destined to prove permanently valuable contributions to our knowledge of Shakespeare's world.

FRANK CHAPMAN SHARP.

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*Nietzsche's Erkenntnistheorie und Metaphysik: Darstellung und Kritik.*

Von RUDOLF EISLER. Leipzig, Hermann Haacke, 1902. — pp. iv, 118.

In spite of the number of monographs concerning Nietzsche, none of those heretofore published is devoted particularly to his epistemology and metaphysics. Dr. Eisler's pamphlet, therefore, fills a place unoccupied by any of its predecessors, and is additional evidence of the increasing attention that is being paid to Nietzsche by serious students of philosophy. Dr. Eisler finds much in Nietzsche's views that is akin to certain contemporary writers, especially E. Mach and Wundt. The plan of his book embraces both exposition and criticism, the latter of which often takes the form of a comparison with Dr. Eisler's own views. The entire discussion is written with clearness and impartiality, and, while there is little or nothing absolutely new in the interpretation of Nietzsche, the abundance of the details and the care with which they are set forth in systematic form render the monograph one of the best that has yet appeared concerning this much praised and much maligned writer.

GRACE NEIL DOLSON.

WELLS COLLEGE.



*L'idée d'évolution dans la nature et l'histoire.* Par GASTON RICHARD.  
Paris, Félix Alcan, 1903. — pp. iv, 406.

This work gained for its author the Crouzet prize, awarded by the Academy of Moral and Political Science. As its title indicates, its subject is a large one, and it is dealt with seriously and at considerable length. The general thesis it maintains is that evolution should be regarded, not as a universal law of the objective universe, but as a regulative concept which finds its place in the genetic study of natural processes. With this notion of evolution, however, the author finds the prevailing evolutionary philosophy of the present day, and especially that of Herbert Spencer, to be at variance. The "Synthetic Philosophy" he regards as the modern representative of the pre-Kantian speculation which led to a purely mathematical conception of reality, and of which Spinozism is the extreme and typical example. In all such philosophies, he claims, the method must be deductive, and the outcome a merely abstract knowledge. On the other hand, the legitimate employment of the idea of evolution is to be found in its application to inductive science, which deals with concrete realities. Even here the dominant conception is not that of evolution as a mere series of metamorphoses, but that of a cosmos, implying consciousness or thought as the subjective aspect of the life of the universe. To reach this conclusion, a critical examination is made of the idea of evolution as related to biology, psychology, and sociology. The philosophical position of the author is that of an idealist, and the trend of the work is strongly opposed to a purely mechanical explanation of nature.

*Saggi per la storia della morale utilitaria. I. La Morale di T. Hobbes.*  
Da RODOLFO MONDOLFO. Verona e Padua, Fratelli Drucker, 1903. — pp. 275.

There are few works that would be more warmly welcomed by students of ethical science than an adequate and comprehensive exposition of Hobbes's moral and political philosophy. The system of this, in some respects, most typically English of speculative thinkers, has received but scanty attention at the hands of his fellow countrymen. We can, therefore, only receive gratefully the monographs relating to him which appear from time to time in France, Germany, and Italy, though they but to a limited extent supply what is needed. The book before us covers somewhat the same ground as that of Signor Tarantino, noticed some time ago in this REVIEW. While the latter work, however, was mainly explanatory, that of Signor Mondolfo is more directly critical. His contention is that Hobbism contains within itself such inconsistencies as, when developed, render the system self-contradictory. He points out the existence of two imperfectly reconciled factors in Hobbes's thought, the ethical and the political; wherever the first emerges, it is admitted that morality, or, in Hobbes's language, 'natural law,' springs from human reason, and has an objective and permanent value. When the second predominates, there is a denial of the claim of reason to

be the source of morality, which emanates from the 'sovereign power of the state.' Signor Mondolfo also finds in Hobbes a shifting of the conception of the *Summum Bonum* from pleasure as the progressive satisfaction of desires, to the mere conservation of life; the latter being all that remains to the individual under the sway of such an absolutism as Hobbes claims to be essential to organized society. The author seems to attribute Hobbes's restriction of the moral consciousness, and denial of personal freedom, to the practical interests and political ends which he had in view in writing the *Leviathan* and his other works; but it is probable that his politics were as much influenced by his speculative theory as the latter was by the former, both, indeed, being due to the character of his genius as affected by the peculiar conditions of the time. As a system of morality, Hobbism as a whole has little permanent value, its psychological foundation being obviously weak; but, in spite of all crudities and verbal inconsistencies, there is a substratum of truth in his philosophy of the state and his conception of law, and to disengage and expound this would perhaps be more useful than any merely destructive criticism can be.

E. RITCHIE.

*Psychology and Common Life.* By FRANK SARGENT HOFFMAN. New York, G. P. Putnam's Sons, 1903.—pp. vi, 286.

The preface of this work tells us that the author intends "to select the most important facts from the great mass of material now accumulated by students of psychical research." What the reader finds, as he looks at the table of contents, are three chapters on mind and body, attention, and memory respectively, and seven on the abnormal and mysterious phases of hallucinations, sleep, hypnotism, mind and disease, telepathy, and the secondary self.

At its best, this volume is an inadequate restatement of material gathered from sources that, it is to be hoped, are at least as accessible to the general reader as this book itself, and for the most part the selections are not well made and often are apparently not understood by the writer. The standpoint suggests phrenology and the faculty psychology, with an occasional refreshing infusion of common sense. The first chapter on body and mind is particularly full of misstatements and half truths. Much of the material bears internal evidence of having been garbled from the Sunday papers. Space forbids the citation of many misstatements. The mention of Goltz among those who would place the 'concept centers' in the frontal lobes, and the statement that cerebral lesions are due to the fact that the arteries of the brain, unlike those of other parts of the body, do not connect at their extremities, will serve to illustrate the general tenor of the chapter.

The chapters on attention and memory reach some common-sense conclusions that must certainly be familiar to even the least initiated of readers. But while in the discussions there are many interesting illustrations of the general statements, there is never psychological analysis that will bear close criticism, and the argument is too often the *non sequitur*.

The latter part of the book is filled with anecdotes from more or less well-known sources. The general conclusions reached are more in harmony with accepted scientific opinion than the first part would lead us to suspect. The attitude toward mind-cures of all kinds is skeptical. After the very numerous unsubstantiated cases are eliminated, the author ascribes the remaining fraction to the influence of the mental on the bodily states. He takes the investigations of Mrs. Piper at face value, and so asserts the existence of telepathy, but is not as yet ready to accept the spiritualistic conclusions that have been drawn by many psychical researchers, or to admit the existence of a secondary self.

W. B. PILLSBURY.

UNIVERSITY OF MICHIGAN.

*Kants Lehre vom Glauben.* Eine Preisschrift der Krugsstiftung der Universität Halle-Wittenberg. Von ERNST SÄNGER. Leipzig, Verlag der Dürr'schen Buchhandlung, 1903. — pp. 170.

In this work Dr. Säger has undertaken a critical historical exposition of Kant's doctrine of belief. There has probably been nothing more important in philosophical development than the proper recognition of the limits of speculation. The immense value of the clear epistemological distinction between knowledge and belief, therefore, is evident. This distinction has made philosophy more cognizant of its aims and more sane in its methods. It must always be of interest, therefore, to go back to Kant as the most fruitful source of this distinction in modern philosophy. Dr. Säger has put us under obligations by his endeavor to supply this need by a fundamental exposition of Kant's doctrine of belief from the original sources. He conducts his study under three heads: (1) Kant's pre-critical writings. (2) Kant's critical writings. This naturally comprises the chief part of the work. (3) Kant's writings left unpublished at his death, *e. g.*, his lectures, letters, and reflections.

The author closes his work with a brief indication of the influence of the critical philosophy on subsequent theology; and, in particular, its relation to the systems of Schleiermacher and Ritschl are discussed in a clear and interesting way. The work has been thoroughly done, showing a real scientific spirit, and will be permanently valuable as a work of reference in connection with the study of Kant. It contains an appreciative introduction by the hands of that distinguished Kant-scholar, Professor Hans Vaihinger.

GEORGE S. PAINTER.

*The Classical Heritage of the Middle Ages.* By HENRY OSBORN TAYLOR. New York, The Columbia University Press, 1901. — pp. xv, 400.

Although this account of the sources of mediæval culture is in the main a study in literary origins, there are several chapters in the work which throw a good deal of light on the philosophy of the period from 400 to 700 A.D., and incidentally on that of subsequent centuries. These chapters are: II, "The Passing of the Antique Man"; V, "Pagan Elements

Christianized in Transmission," in which the pagan and Christian ethical ideals are characterized, and Pseudo-Dionysius the Areopagite interestingly discussed; VI, "Ideals of Knowledge, Beauty, and Love." The remaining chapters are occupied chiefly with questions of literature and art.

W. A. H.

The following books also have been received :

- Evolution and Adaptation.* By THOMAS HUNT MORGAN. New York, The Macmillan Co., 1903. — pp. xiii, 470.
- A History of European Thought in the Nineteenth Century.* Vol. II. By JOHN THEODORE MERZ. Edinburgh and London, Wm. Blackwood & Sons, 1903. — pp. xiii, 807.
- Transitional Eras in Thought.* By A. C. ARMSTRONG. New York, The Macmillan Co., 1904. — pp. xi, 347.
- The Nature of Goodness.* By G. H. PALMER. Boston and New York, Houghton, Mifflin & Co., 1903. — pp. xii, 247.
- The Relations between Freedom and Responsibility in the Evolution of Democratic Government.* By ARTHUR T. HADLEY. New York, Chas. Scribner's Sons, 1903. — pp. 175.
- The Canon of Reason and Virtue.* (Lao-Tze's Tao Teh King.) Translated from the Chinese by PAUL CARUS. Chicago, The Open Court Publishing Co., 1903 — pp. 96-138.
- The Free-Will Problem in Modern Thought.* By WM. H. JOHNSON. Columbia University Contributions to Philosophy, Psychology, and Education, x, 2. New York, The Macmillan Co., 1903, pp. 94.
- A Bird's-eye View of the Literature of Ethical Science since the Time of Charles Darwin.* By WALTER L. SHELDON. Transactions of the Academy of Science of St. Louis, xiii, 4, 1903. — pp. 87-142.
- Princeton Contributions to Psychology*, III, 2. Edited by J. MARK BALDWIN. Princeton, The University Press, 1902. — pp. 21-65; same, IV, 1, 1903. — pp. 34.
- Ethik : Eine Untersuchung der Tatsachen und Gesetze des sittlichen Lebens.* Von WILHELM WUNDT. Dritte umgearbeitete Auflage. Zwei Bände; Stuttgart, F. Enke, 1903. — pp. x, 523; vi, 409.
- Nietzsches Philosophie.* Von ARTHUR DREWS. Heidelberg, C. Winter, 1904. — pp. x, 561.
- Der Sinn des Daseins.* Von LUDWIG STEIN. Tübingen und Leipzig, J. C. B. Mohr, 1904. — pp. xi, 437.
- Lehrbuch der Geschichte der Philosophie.* Von W. WINDELBAND. Dritte, durchgesehene Auflage. Tübingen und Leipzig, J. C. B. Mohr, 1903. — pp. viii, 575.
- Immanuel Kant : Die Religion innerhalb der Grenzen der blossen Vernunft.* Herausgegeben von KARL VORLÄNDER. Dritte Auflage. Leipzig, Verlag der Dürr'schen Buchhandlungen, 1903. — pp. xcvi, 260.

- Zur Psychologie des ästhetischen Genusses.* Von G. WERNICK. Leipzig, W. Engelmann, 1903. — pp. 148.
- Die Welt als Wille zum selbst.* Von MAX DRESSLER. Heidelberg, C. Winter, 1904. — pp. 112.
- Kant und die Platonische Philosophie.* Von THEODOR VALENTINER. Heidelberg, C. Winter, 1904. — pp. 94.
- Das Problem der Gegebenheit.* Von PAUL STERN. Berlin, B. Cassirer, 1903. — pp. viii, 79.
- Die Theorie der Lokalzeichen.* Von ERWIN ACKERKNECHT. Tübingen und Leipzig, J. C. B. Mohr, 1904. — pp. viii, 88.
- Ueber die Grenzen der Gewissheit.* Von ERNST DÜRR. Leipzig, Verlag der Dürr'schen Buchhandlung, 1903. — pp. vii, 152.
- Tat und Wahrheit.* Von HANS VON LÜPKE. Leipzig, Verlag der Dürr'schen Buchhandlung, 1903. — pp. 35.
- Der Gegenstand der Erkenntnis.* Von HEINRICH RICKERT. Tübingen und Leipzig, J. C. B. Mohr, 1904. — pp. viii, 244.
- Moralphilosophische Streitfragen. Erster Teil: Die Entstehung des sittlichen Bewusstseins.* Von GUSTAV STÖRRING. Leipzig, W. Engelmann, 1903. — pp. vii, 151.
- Kant.* Sechzehn Vorlesungen gehalten an der Berliner Universität. Von GEORG SIMMEL. Leipzig, Duncker & Humblot, 1904. — pp. vi, 181.
- Grundzüge der physiologischen Psychologie.* Von W. WUNDT. Fünfte völlig umgearbeitete Auflage. Gesamtregister bearbeitet von WILHELM WIRTH. Leipzig, W. Engelmann, 1903. — p. 133.
- Kant: Sein Leben und seine Lehre.* Von M. KRONENBERG. Zweite neubearbeitete und erweiterte Auflage. München, C. H. Beck, 1904. — pp. x, 403.
- Le radicalisme philosophique.* Par ELIE HALÉVY. Paris, F. Alcan, 1904. — pp. v, 512.
- Travail et plaisir.* Par CH. FÉRÉ. Paris, F. Alcan, 1904. — pp. 476.
- Pierre Leroux, sa vie, son œuvre, sa doctrine.* Par P.-FÉLIX THOMAS. Paris, F. Alcan, 1904. — pp. vi, 340.
- Nouveau programme de sociologie.* Par EUGÈNE DE ROBERTY. Paris, F. Alcan, 1904. — pp. 268.
- L'éducation fondée sur la science.* Par C.-A. LAISANT. F. Alcan, 1904. — pp. xlv, 153.
- Le bonheur et l'intelligence.* Par OSSIP-LOURIÉ. Paris, F. Alcan, 1904. pp. 201.
- L'origine des idées.* Par PAUL REGNAUD. Paris, F. Alcan, 1904. — pp. viii, 119.
- Le langage intérieur et les paraphrasies.* Par G. SAINT-PAUL. Paris, F. Alcan, 1904. — pp. 316.

*Esquisse d'un système de psychologie rationnelle.* Par ÉMILE LUBAC, Paris, F. Alcan, 1904. — pp. xvi, 248.

*Les phénomènes d'autoscopie.* Par PAUL SOLLIER. Paris, F. Alcan, 1903. — pp. 175.

*Esquisse d'une évolution dans l'histoire de la philosophie.* Par NICOLAS KOSTYLEFF. Paris, F. Alcan, 1903. — pp. 224.

*L'idéal esthétique.* Par FR. ROUSSEL-DESPIERRES. Paris, F. Alcan, 1904. — pp. 186.

*Il pensiero di Francesco Sanchez.* Per CESARE GIARRATANO. Napoli, L. Pierro e Figlio, 1903. — pp. 104.

*Bosquejo de un diccionario técnico de filosofía y teología musulmanas.* Por MIGUEL ASÍN PALACIOS. Zaragoza, M. Escar, 1903. — pp. 41.

## NOTES.

The opening of the new year has been marked by the appearance of several new journals devoted in whole or part to philosophy and psychology. *The Journal of Comparative Neurology* is to become *The Journal of Comparative Neurology and Psychology*, and is to be edited by Dr. C. L. Herick, with Drs. O. S. Strong and Robert M. Yerkes as associate editors, and a strong staff of collaborators, among whom we note as of special interest to psychologists the names of J. Mark Baldwin, H. H. Bawden, C. Lloyd Morgan, Hugo Münsterberg, and W. H. Davis. The editors announce that it is their intention to publish abstracts of current literature, synthetic reviews, and editorial discussions of movements and tendencies in comparative neurology and comparative psychology adapted for those whose purpose it is to follow the main lines of development in the progress of these sciences.

On January 7 there appeared the first number of the *Journal of Philosophy, Psychology, and Scientific Methods*, edited by Professor Frederick J. E. Woodbridge, of Columbia University. This journal is to be published every two weeks, and aims to fulfil the functions of a 'Central-Blatt,' publishing short articles, discussions, prompt reviews, and abstracts of literature.

*The Psychological Review*, which is henceforth to be edited by Professor Baldwin, of Johns Hopkins University, and Professor Warren, of Princeton (Professor Cattell retiring), with many distinguished collaborators, has been divided into two somewhat independent sections. The first section, devoted exclusively to articles will appear as hitherto, once in two months. A second division, entitled *The Psychological Bulletin*, will be published every month, and will contain reviews and abstracts of literature, discussions, and scientific notes and announcements.

In England there has been established *The British Journal of Psychology*. This will be edited by Professor James Ward and Dr. W. H. R. Rivers of Cambridge University. It will appear in parts at irregular intervals, about four hundred and fifty pages constituting a volume, the price of which is fifteen shillings. It is to be published by Messrs. Clay & Sons, of London.

The first number of the *Journal de Psychologie normale et pathologique* has appeared under the editorship of Professor Pierre Janet and Dr. Georges Dumas. This journal is to appear every two months and proposes also to be a 'Central-Blatt' for all in France who are interested in psychological studies. It is published by Alcan, and the yearly subscription is fourteen francs.

On the 22d of January, Professor Edward Zeller completed his ninetieth year. The REVIEW joins with his many friends throughout the world in tendering congratulations to the venerable scholar whom students of the

history of thought acknowledge as 'the master of them that know' in all things pertaining to Greek philosophy.

We regret to announce the death of Professor Jacob Cooper, who has occupied the chair of Logic and Mental Philosophy in Rutgers College since 1893, having previously, from 1866, been professor of Greek in the same institution. Dr. Cooper received the degree of Doctor of Philosophy at the University of Göttingen in 1854, and in 1873 was awarded the degree of D.C.L. from Jena. He has published several books and many articles, though most of them lie outside the field of technical philosophy. He was seventy-three years of age.

A congress for experimental psychology will be held in Giessen from April 18 to 20. The invitations for the congress have been signed by nearly all the prominent psychologists in Germany.

The Second International Congress of Philosophy will meet in Geneva from the 4th to the 8th of September in five sections, occupied respectively with History of Philosophy, General Philosophy and Psychology, Applied Philosophy (Ethics, Æsthetics, Philosophy of Religion), Logic and Philosophy of the Sciences, History of the Sciences.

By the terms of Herbert Spencer's will, the trustees, after certain specified conditions in connection with his books have been fulfilled, are directed to sell the copyrights and other property. They are then to "give the sum realized in equal parts to the Geological Society, the Geographical Society, the Linnæan Society, the Anthropological Society, the Zoölogical Society, the Entomological Society, the Astronomical Society, the Mathematical Society, the Physical Society, the Chemical Society, the Royal Institution, and the British Association, or such of them as shall then be in existence and shall accept the gift upon the condition that the sum received shall within five years from the date of payment be spent by the governing body for the purchase or enlargement of premises, or for books or apparatus or collections, or for furniture or repairs, or for equipment, or for travellers and donations of instruments of research, but in no way or degree for purposes of endowment."

Professor George Stuart Fullerton, of the University of Pennsylvania, who is spending this year in Germany, has accepted a call to a chair of philosophy in Columbia University.

In our last issue, through a printer's error, it was stated that February 4 was the date of the death of Kant. The correct date is February 12, and on that day memorial exercises were held in many American universities. It is hoped that the interest aroused in connection with this observance of the centenary of Kant's death, may lead to the endowment of the *Kant-Studien*, as a permanent organ for the study and development of his philosophy. Subscriptions for this purpose may be sent to the editor, Professor H. Vaihinger, Halle a. S., Germany, or to the American representative of the journal, Professor J. E. Creighton, Cornell University.



Dr. Benjamin Rand, of Harvard, has just completed the printing of a "Bibliography of the History of Philosophy." It embraces all the great philosophers from Thales to Spencer, their works, and the works written upon them. The philosophers number 550, and the literature about them comprises 25,000 titles of articles and volumes. The work now equals 500 pages of double columns.

He has also prepared Bibliographies of Systematic Philosophy, Logic, Æsthetics, Philosophy of Religion, Ethics, and Psychology. These will also be printed in succession by the University Press at Oxford. These Bibliographies, with the one already printed, will together form the third volume of the Dictionary of Philosophy and Psychology edited by Professor J. Mark Baldwin, and will also appear in separate form as Dr. Rand's "Bibliography of Philosophy." The publishers are the Macmillan Company.

Just as we are going to press, the news comes of the death of Sir Leslie Stephen. He was born in 1832, and educated at Eton and Trinity Hall, Cambridge. His more important philosophical works are: *History of English Thought in the Eighteenth Century* (1876); *The Science of Ethics* (1882); *An Agnostic's Apology* (1893); *The English Utilitarians* (1900).

We give below a list of the articles, etc., in the current philosophical journals:

THE MONIST, XIV, 2: *G. Sergi*, Primitive Rome; *A. Forel*, Ants and Some Other Insects (concluded); *Editor*, The Still Small Voice; *A. J. Edmunds*, A Buddhist Genesis; *G. W. Gilmore*, The Higher Criticism; *Teitaro Suzuki*, The First Buddhist Council; *Lucien Arréat*, Literary Correspondence, France; Criticisms and Discussions; Book Reviews and Notes.

MIND, No. 49: *F. H. Bradley*, The Definition of Will; *W. H. Fairbrother*, The Relations of Ethics to Metaphysics; *C. M. Walsh*, Kant's Transcendental Idealism and Empirical Realism, II; *G. D. Hicks*, Professor Adamson's Philosophical Lectures; Critical Notices; New Books; Philosophical Periodicals; Notes.

THE INTERNATIONAL JOURNAL OF ETHICS, XIV, 2: *W. J. Brown*, The True Democratic Ideal; *T. C. Hall*, Relativity and Finality in Ethics; *Eliza Ritchie*, The Toleration of Error; *R. A. Duff*, Proverbial Morality; *S. J. Barrows*, Crime in England; *John MacCunn*, The Cynics; *W. A. Watt*, The Individualism of Marcus Aurelius; *H. B. Alexander*, The Spring of Salvation; Discussion; Book Reviews.

THE PSYCHOLOGICAL REVIEW, XI, 1: *Raymond Dodge*, The Participation of Eye Movements in the Visual Perception of Motion; *Boris Sidis*, An Inquiry into the Nature of Hallucination; *J. Mark Baldwin*, The Limits of Pragmatism; Discussion.

THE HIBBERT JOURNAL, II, 2: *H. C. Corrance*, Progressive Catholicism and High Church Absolutism; The Alleged Indifference of Laymen to Religion; *E. Carpenter*, The Gods as Embodiments of the Race-memory;

*W. P. Montague*, The Evidence of Design in the Elements and Structure of the Cosmos ; *J. H. Beibitz*, The New Point of View in Theology ; *L. R. Farnell*, Sacrificial Communion in Greek Religion ; *B. W. Bacon*, The Johannine Problem, II ; *J. Moffatt*, Zoroastrianism and Primitive Christianity, II ; *Alice Gardner*, Some Theological Aspects of the Iconoclastic Controversy ; Discussions ; Reviews.

THE AMERICAN JOURNAL OF THEOLOGY, VIII, 1 : *A. G. B.*, The Religious Situation in Paris ; *F. C. Porter*, Inquiries Concerning the Divinity of Christ ; *J. E. McFadyen*, Hellenism and Hebraism ; *G. T. Knight*, The New Science in Relation to Theism ; *E. König*, The Problem of the Poem of Job ; Recent Theological Literature.

THE BRITISH JOURNAL OF PSYCHOLOGY, I, 1 : *James Ward*, On the Definition of Psychology ; *C. S. Sherrington*, On Binocular Flicker and the Correlation of Activity of 'Corresponding' Retinal Points ; *J. L. McIntyre*, A Sixteenth Century Psychologist : Bernardino Telesio ; *W. McDougall*, The Sensations Excited by a Single Momentary Stimulation of the Eye ; Note ; Proceedings of the Psychological Society.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS, I, 1 : *Hugo Münsterburg*, The International Congress of Arts and Science ; *G. T. Ladd*, The Religious Consciousness as Ontological. *C. L. Franklin*, Some Points in Minor Logic ; The Third Meeting of the American Philosophical Association ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes.

I, 2 : *C. J. Keyser*, Concerning the Concept and Existence-Proofs of the Infinite ; *E. B. Titchener*, Organic Images ; *M. A. Starr*, Cases of Double Consciousness ; *J. A. Leighton*, The Logic of History ; *Editor of Science*, The Limitations of Minor Logic ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

I, 3 : *John Dewey*, Notes upon Logical Topics ; *H. H. Bawden*, The Necessity from the Standpoint of Scientific Method of a Reconstruction of the Ideas of the Psychical and the Physical ; *W. Lay*, Organic Images ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

I, 4 : *E. B. Delabarre*, Accuracy of Perception of Verticality, and the Factors that Influence It ; *Wm. Turner*, Recent Contributions to the Literature of Scholasticism ; *J. H. Tufts*, Note on the Idea of a 'Moral Sense' in British Thought Prior to Shaftesbury ; *J. H. Hyslop*, Professor Pierce on Space Perception ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

THE PSYCHOLOGICAL BULLETIN, I, 1 : *Wm. James*, The Chicago School ; Literature ; Notes and News ; Books Received.

I, 2 : Proceedings of the American Psychological Association ; Proceedings of the American Philosophical Association ; *J. M. Baldwin*, Comment.

I, 3: *E. F. Buchner*, Psychological Progress; Psychological Literature; New Books; Notes; Journals.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOZIOLOGIE, XXVII, 4: *F. Oppenheimer*, Skizze der sozial-ökonomischen Geschichtsauffassung, II; *R. Müller*, Über die zeitlichen Verhältnisse in der Sinneswahrnehmung; *Paul Barth*, Zu Herders 100. Todestage; Besprechungen; Philosophische Zeitschriften; Bibliographie.

KANTSTUDIEN, VIII, 2-3: *F. Medicus*, Kant und Ranke; *A. Thomsen*, Bemerkungen zur Kritik des kantischen Begriffes des Dinges an sich; *H. Kleinpeter*, Kant und die naturwissenschaftliche Erkenntniskritik der Gegenwart; *A. Messer*, Die "Beziehung auf den Gegenstand" bei Kant; *K. Vorländer*, Rudolf Sammlers Lehre vom richtigen Recht; *E. Wille*, Konjekturen zu mehreren Schriften Kants; Selbstanzeigen; Mitteilungen.

VIII, 4: *W. Reinecke*, Die Grundlagen der Geometrie nach Kant; *E. Lucka*, Das Erkenntnisproblem und Machs "Analyse der Empfindungen"; *van der Wyck*, Kant in Holland, II; *E. Wille*, Konjekturen zu Kants Kritik der praktischen Vernunft; Recensionen; Selbstanzeigen; Redaktionelles.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, XXXIII, 1-2: *A. Meinong*, Bemerkungen über den Farbenkörper und das Mischungsgesetz; *O. Rosenbach*, Das Ticktack der Uhr in akustischer und sprachphysiologischer Beziehung; *Th. Ziehen*, Erkenntnistheoretische Auseinandersetzungen, II; Literaturbericht.

XXXIII, 4: *E. P. Braunstein*, Beitrag zur Lehre des intermittierenden Lichtreizes der gesunden und kranken Retina (Schluss); *Max Meyer*, Zur Theorie japanischer Musik; Literaturbericht.

XXXIII, 5: *Egon Ritter von Oppolzer*, Grundzüge einer Farbentheorie, II; *Hugo Frey*, Weitere Untersuchungen über die Schalleitung im Schädel; Literaturbericht.

XXXIII, 6: *H. Zwaardemaker*, Die Empfindlichkeit des Ohres; *F. Kiesow*, Zur Psychophysiologie der Mundhöhle; *F. Kiesow*, Zur Frage nach der Fortpflanzungsgeschwindigkeit der Erregung im sensiblen Nerven des Menschen; *F. Kiesow*, Ein Beitrag zur Frage nach den Reaktionszeiten der Geschmacksempfindungen; Literaturbericht.

XXXIV, 1: *Alfred Borschke*, Untersuchungen über die Herabsetzung der Sehschärfe durch Blendung; *G. Heymans*, Untersuchungen über psychische Hemmung, III; *Marx Lobsien*, Über Farbenkenntnis bei Schulkindern; *C. A. Strong*, Leib und Seele; Literaturbericht.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, X, 2: *Theodor Lorenz*, Weitere Beiträge zur Lebensgeschichte George Berkeleys; *J. Chazottes*, Sur une prétendue faute de raisonnement que Descartes aurait commise; *G. Jaeger*, Locke, eine kritische Untersuchung der Ideen des Liberalismus und des Ursprungs nationalökonomischer Anschauungsformen; *J. Pollak*,

Entwicklung der arabischen und jüdischen Philosophie im Mittelalter ; *A. Hoffmann*, Die Lehre von der Bildung des Universums bei Descartes ; Jahresbericht.

REVUE PHILOSOPHIQUE, XXVIII, 12 : *Belot*, Les principes de la morale positiviste et la conscience contemporaine ; *A. Binet*, De la sensation à l'intelligence (2<sup>e</sup> article) ; *L. Marillier et J. Philippe*, Sur l'aperception des différences tactiles ; *A. Lalande*, Les récents dictionnaires de philosophie ; Analyses et comptes rendus ; Revue des périodiques étrangers ; Livres nouveaux ; Table des matières.

XXIX, 1 : *É. Tardieu*, Le cynisme ; étude psychologique ; *Xénopol*, Le caractère de l'histoire ; *F. le Dantec*, La logique et l'expérience ; *J.-H. Leuba*, A propos de l'érotomanie des mystiques chrétiens ; *P. Fauconnet*, "La morale et les mœurs" d'après M. Lévy-Bruhl ; Analyses et comptes rendus ; Revue des périodiques étrangers ; Nécrologie ; Livres nouveaux.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XI, 6 : *J. Lachelier*, L'observation de Platner ; *A. Espinas*, L'organisation ou la machine vivante en Grèce, au IV<sup>e</sup> siècle avant J.-C. ; *G. Sorel*, Sur divers aspects de la mécanique, *F. Evellin*, La dialectique des antinomies kantienne ; *G. Milhaud*, La science et l'hypothèse par M. H. Poincaré ; *A. Darlu*, L'idée de patrie ; Tables des matières ; Livres nouveaux ; Revues et périodiques ; La philosophie dans les universités.

XII, 1 : *A. Darlu*, La morale de Renouvier ; *L. Couturat*, Les principes des mathématiques ; *F. Rauh*, Le devenir et l'idéal social à propos d'une brochure récente ; *Bouglè*, La démocratie devant la science ; *G. Lechalas*, Sur la théorie géométrique du Général de Tilly ; *E. Chartier*, Vers le positivisme absolu par l'idéalisme par Louis Weber ; Questions pratiques ; Nécrologie ; Livres nouveaux ; Revues et périodiques ; Thèses de doctorat.

REVUE NÉO-SCOLASTIQUE, X, 4 : *C. Besse*, Lettre de France : L'anticléricalisme sous M. Combes ; *M. De Wulf*, La décadence de la scolastique à la fin du moyen âge ; *H. Meuffels*, Un problème à résoudre ; *E. Janssens*, Charles Renouvier ; Mélanges et Documents ; Bulletin de l'Institut de Philosophie ; Comptes-rendus ; Ouvrages envoyés à la rédaction ; Table des matières.

JOURNAL DE PSYCHOLOGIE NORMAL ET PATHOLOGIQUE, I, 1 : *Th. Ribot*, De la valeur des questionnaires en psychologie ; *Th. Flournoy*, Note sur une communication typtologique ; *J. Grasset*, La sensation du 'déjà vu' ; *F. Raymond et P. Janet*, Dépersonnalisation et possession chez un psychasthénique ; Bibliographie.

## THE PHILOSOPHICAL REVIEW.

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### ON MECHANICAL EXPLANATION.

I. *On the Definition of the Mechanical Ideal.* — In philosophy and in science we are frequently called upon to face a certain hypothesis, — the hypothesis, namely, that all the phenomena of the world in which we live are susceptible of a mechanical explanation. In discussing method we are in the habit of referring to this point of view as the ‘mechanical ideal.’ Now we all feel that in a way we understand what is meant by the mechanical ideal, whether or not we are willing to entertain it, and yet it must be admitted that the literature of philosophy is much richer in instances of an instinctive application of this ideal than in examples of a serious effort to define its meaning. We feel no little confidence in our right to pronounce certain methods of explanation inharmonious with the ideal, but such exclusions still leave us in considerable doubt respecting the inclusion of the term.

For example, it would probably be admitted by all that a biologist who denied the possibility of finding among the physico-chemical conditions of an organism and its environment at any moment the determinants of the growth of the organism at that moment, would definitely have rejected the mechanical ideal. But, on the other hand, would the adoption of a physico-chemical theory of growth be equivalent to the acceptance of the ideal? At least, we can understand the eagerness of an Ostwald to replace the vague concept of “chemical affinity” with a picture whose details are wholly physical of the processes which are involved in neutralization, solution, and so forth. This sympathy

may be taken as the expression of an instinctive feeling that the phenomena of chemistry themselves are in need of a mechanical explanation. A like satisfaction attends every successful effort to reproduce certain physical phenomena (for example, those of heat) in terms of concealed mass-motions. In short, a type of explanation which at one stage of our progress and with a view to certain exclusions we may advance as mechanical, will itself appear at another stage to be in need of mechanical explanation. It would thus seem that the use of the concept in question is subject to that vacillation which makes definition of it at once difficult and imperative.

To begin with, the most natural suggestion, and the one most closely in accord with historical development, would view our ideal as arranging the sciences in a series of subsumptions of such nature that we might regard each science as capable of reduction to the one next below it, until at last we arrived at a fundamental science to which all the others might be reduced. The adjective 'mechanical' attached to our ideal would then indicate that this fundamental science was none other than the science of mechanics. Indeed, it would seldom occur to the scientist that there could be any sense in which the phenomena of mechanics themselves were in need of further explanation. If this suggestion be adopted, our task of defining the mechanical ideal will be accomplished when we have given a definition of mechanics and an explanation of the sense in which one science is capable of reduction to another. Such an insight into the meaning of the term having been obtained, we may proceed to examine the grounds which could be urged for the acceptance of the ideal as a guide to our speculation.

In defining the science of mechanics, it is necessary that our method should make use of such differentiae as are of general application. The problem of the classification of the sciences is very far from having reached solution, but as a contribution to it I may suggest that the characteristics which best distinguish a science are those which, in technical language, are termed the 'dimensions' of the science. The concept of the dimensions of a science, although of familiar application, is not quite easy to de-

fine ; that is, it is difficult to bring it under the concept of dimensions in general. For our present purpose, it will be sufficient to illustrate the meaning of dimensions and to show in what sense they may be used to differentiate the sciences.

As a particularly simple case, let us consider the dimensions of a system of bodies to which we might give the name of a Laplacean system. Such a system would be defined in terms of the familiar image once offered by Laplace ; that is, it would be a system such that, if we knew the masses, the space distribution, and the velocities at all points at any given moment, we should be able to calculate the masses, the space distribution, and the velocities of all points for any other moment. The formula by which such a calculation would be made might be called the axiom of the science dealing with such systems. It is evident that there are four independent observations which must be made at every point in the system, and which must be substituted in the formula, before any determinate problem is presented to us. These four independent observations are mass, length, time, and velocity ; and the use to which we put them might suggest an analogy with the way in which we use independent coördinates to determine the position of an element in any dimensional manifold. The concept of the dimensions of our science, however, differs slightly from this, in that we consider not the independent data, but the independent kinds of measurement involved. Thus velocity, being a ratio of length and time, is not regarded as a dimension in the sense now contemplated, but implicitly contains the dimensions length and time ; so that in the end the dimensions of a science dealing with Laplacean systems would be mass, length, and time.

With the concept of a dimension now clear, we may proceed to define mechanics as the science whose dimensions are mass, length, and time. We shall, of course, not be understood to identify mechanics with the science of the Laplacean systems in the sense of the preceding illustration, for, while such a science would certainly be mechanical, the converse is not implied, that mechanics is the science of Laplacean systems. If, in fact, we were to compare this definition with the contents of an ordinary text-

book of mechanics, we should see that our definition was both broader and narrower than that which is implied in the subjects there treated of. It is broader for the reason that it would include such widely divergent systems of mechanics as those based on the theory of rigid connections, on the one hand, and those based on the theory of action at a distance, on the other. It is narrower in that it would exclude certain problems which are generally handled in text-books on mechanics and yet which we cannot regard as properly mechanical, — for example, the problems of impact. For evidently no knowledge of the masses, space distribution, and length-and-time quotients, would inform us whether two colliding bodies would behave as elastic or as inelastic bodies. Without this knowledge, however, the problem of impact is indeterminate. The knowledge itself can only be conveyed in terms of a coefficient of elasticity, which must at present be regarded as a new dimension. The breadth, however, is evidently proper to a definition which is to include the common feature of all schools of mechanics, without taking sides on questions of detail. The narrowness succeeds in relegating to the domain of general physics phenomena that are generally recognized as lacking a purely mechanical solution.

Mechanics, then, is the science whose dimensions are mass, length, and time; it remains to be seen what is meant, when we speak of reducing other sciences to mechanics. Our method of offering such an explanation must depend upon the acceptance of our suggestion that the various sciences may be differentiated in terms of their dimensions. This suggestion requires some defense. It will be seen at once that it is neatly applicable to the definition of certain recognized branches of physics. For example, thermodynamics would involve the additional dimension *temperature*; electrostatics and electrodynamics, the additional dimension *quantity of electricity*; magnetism, the dimension *strength of pole*. But it will not at once be evident that there is any sense in which we could define chemistry in terms of a specific dimension or group of dimensions, and a like difficulty would pertain to the definition of biology, psychology, sociology, etc.

As for chemistry, we must distinguish between its condition in



the past, in which it presented a series of more or less general observations which could not be united in any single formula, and a tendency towards systematization which characterizes its present. There are, it would seem, two main problems of chemistry: (1) to deduce the properties of a compound from the properties of the elements entering into it; (2) to develop a formula by which the various properties of elements may be expressed as functions of one of their number, which may then be taken as defining the element.

In connection with the first of these problems, Ostwald has divided the properties of compounds into the 'additive,' the 'constitutive,' and the 'colligative.' The 'additive' properties of a compound are the simple sum of the properties of the elements combined: thus the molecular mass is the sum of the atomic masses. The 'constitutive' properties are those which depend not only on the elements combined, but upon a factor which is usually called the 'arrangement' of these elements. The 'colligative,' finally, depend wholly upon the arrangement of the elements. If, now, as Ostwald suspects, it should be found that the 'constitutive' and 'colligative' properties are ultimately reducible to the 'additive,' or if the factor which is termed 'arrangement' may be conceived to depend on the space distribution,—or space order, let us say,—the whole problem of the properties of compounds presents no dimension which does not belong to the elements themselves. If, on the other hand, the reduction of 'constitutive' and 'colligative' properties to 'additive' cannot be effected, or if the factor of 'arrangement' cannot be conceived in spatial terms, it is possible that the science of chemical compounds would possess a specific dimension of its own.

Again, the immediate result of the attempt to express all the properties of elements in terms of one of their number taken to be characteristic, is illustrated in the formulation of the periodic law. Imperfect as this scheme is recognized to be, it was still possible for Mendelyeff to predict the properties of an element as yet unobserved from the assumption of its atomic mass, and to find his prediction confirmed by later observation. The possession of

such a formula as the periodic law suggests would have a tendency to make atomic mass the dimension of chemistry.

May we not, therefore, say that in so far as chemistry succeeds in being a single science rather than tables of collated observations, that single science is definable by a specific dimension? And conversely, in so far as we are unable to assign any dimension to chemistry, does not the application of a single name to entirely independent observations depend rather upon an association of ideas, upon accidental similarity of method, than upon any right to regard that name as capable of a unique definition?

As to the other sciences mentioned, biology, psychology, sociology, etc., it is clear that they are interested in laws which apply to complex wholes. The terms in which these laws are stated are in general not applicable to the parts of which the wholes are composed. The question, then, as to whether these sciences are definable in terms of specific dimensions, is not identical with the question as to whether they are definable at all. If, for example, it were admitted that the phenomena of organic life could not be explained in terms of the physical and chemical constituents of an organism, it might be possible that a study of biology would lead to the discovery of a dimension which the physics and chemistry alluded to had not included. So, for example, it has been suggested that 'vital force' might be regarded as a property, related, say, to magnetic force as magnetic force is related to gravitation. To appeal to such a force would be to attempt to give biology a specific dimension. But if no such appeal is made, and if the biologist admits that the laws of the totals with which he is dealing can be constructed out of the physico-chemical laws of the parts which compose them, the science does not in the least cease to be definable, but it ceases to be an independent science. Its definition must now be sought in the nature of the totals or groups with which it deals. For this reason I am in the habit of referring to a science thus defined as a 'superimposed, science. It will be seen, then, that the differentiation of the sciences in terms of their dimensions is a differentiation which is only meaningful in case these sciences are independent; and conversely, to define a science as a 'superimposed' science is

to admit that it possesses no specific dimensions. For the rest, we are not interested in the question as to whether biology, psychology, and sociology are really 'superimposed' sciences or not.

Enough has perhaps been said to make it clear in what sense our suggestion that sciences may be differentiated in terms of their dimensions is applicable throughout the whole range of independent sciences. The advantage of this method of differentiation is that it yields us immediately the statement for which we have been in search, of the meaning of reduction. We may now say in general that *any science x, dimensions abcd, is reducible to any science y, dimensions abc, when it may be shown in any manner that the term d is expressible as a function of abc*. For example, let  $x$  be the science of thermodynamics, whose dimensions are mass, length, time, and temperature, and let  $y$  be the science of mechanics. The reduction of thermodynamics to mechanics is effected when we show that temperature is a function of mass, length, and time, or of any pair of these three terms. This reduction is exactly the one that has been effected by the mechanical theory of heat, in which it has been made to appear that temperature is a function of the velocity of certain concealed mass-motions. It would be easy to find in the physical speculations of our day other reductions of an exactly similar nature. Such a reduction having been made, the reduced science loses its independence with its specific dimension, and if retained in our thinking at all, must be treated as 'superimposed' science.

Thus we obtain, as the most general statement of the mechanical ideal, the hypothesis that *mass, length, and time, are the dimensions of natural science*.

II. *On the Possibility of the Mechanical Ideal.* — Having defined the mechanical ideal in a way that has at least the advantage of displaying its own motives, we are now in a position to consider the arguments that may be advanced for its acceptance or its rejection. We may at once lay aside as irrelevant all reference to our present accomplishment in the premises. It is obvious that we are indefinitely remote from the realization of the ideal as it has been defined; it is no less plain that many steps of modern

progress might readily be looked upon as conducting us toward such a goal. But if no discussion of this problem save the *a posteriori* is possible, our only business for the present is to possess our souls in patience and to await the results of experimental science. As an historical fact, however, there have been advanced reasons purporting to be *a priori* for supposing that the attainment of our end is impossible, and other reasons laying no less claim to an *a priori* character for expecting with confidence its ultimate realization. It is to a consideration of these *a priori* grounds for acceptance or rejection that we now turn. In the present paper I shall confine myself to the former class of arguments, reserving the discussion of the latter class for a future occasion.

That a mechanical image of nature can never be constructed has been urged on one of two grounds, — either on the ground that the image is self-contradictory and so meaningless, or on the ground that it is essentially untrue to nature. The former objection goes back to Parmenides and Zeno; it has never lacked representatives. The latter has been insisted upon most obstinately by those who have been impressed with the multitude of purposeful processes in nature, and who cannot convince themselves that nature could be described or its happenings predicted without making use of expressions that have reference to ends; but such reference, they feel, implies other laws than those which enable us to define a mechanical system.

Such objections to the meaningfulness of the mechanical image as turn on the difficulties in defining mass, length, time, and their combinations, cannot be discussed in this connection; we should find ourselves involved in some of the most perplexing chapters of metaphysics. Yet we are not prevented from taking at once a certain attitude toward this class of objections. To any one who thinks that he has discovered contradictions or insufficiencies in the definitions ordinarily offered in the field of geometry, kinematics, and mechanics, we can only reply that it would be surprising if such imperfections were not to be found. The history of the search for definitions from Socrates to the present time makes nothing plainer than that the terms we use most instinc-

tively are the ones whose meaning it is most difficult to set forth. But on the whole we make progress. The particular inadequacy of mass, as defined by Newton, is not to be found in Mach's definition. Hertz, while admitting this, is still dissatisfied with the accomplishment of Mach, and if Hertz is not justified, nothing is more likely than that another critic will be. There is every reason to hope, however, that since the modern systematist has detected and removed the imperfections of Newton, the future critic will be able to detect and to remove the flaws that are latent in our current system. The history of the concept of mass is repeated in that of the other dimensions. No one who is acquainted with the problem of framing the axioms of geometry and kinematics is going to stake much on the perfection of any system that has yet been advanced, but neither can one find any single difficulty which from Euclid to Hilbert and Poincaré, for example, has not been overcome.

We may then take this attitude toward the first class of *a priori* objections to the mechanical ideal, namely: that if no definition of the terms in which we have presented this ideal is beyond danger of attack, yet no one inadequacy has been discovered which has remained beyond remedy.

Now let us turn to the second class of *a priori* objections. They are advanced by the heirs to the Aristotelian doctrine that "everything in nature takes place for the sake of an end." It is not easy to determine just how broad and just how narrow was the 'nature' contemplated by Aristotle, nor yet to what extent things taking place for the sake of an end were also, in his view, parts of a mechanism. But in the sequel the possession of a nature that could be defined in the terms of the end sought and "always or for the most part" attained, was frequently enough supposed to demonstrate the inadequacy of mechanical explanation. Thus Aquinas: "We see that certain things lacking perception, sci. natural bodies, act for the sake of an end. . . But things which have no perception can only tend toward an end if directed by a conscious and intelligent being. Therefore there is an intelligence, by which all natural things are ordered to an end."<sup>1</sup>

<sup>1</sup> *Summa theol.*, I, quæst. 2, art. 3.

The most significant modern representative of the point of view which Aristotle sought to make final is the science of biology. It was in this field, it will be remembered, that Kant imagined the demonstration of the inadequacy of mechanism to be complete. "It is quite certain," he writes, "that we can never adequately know, still less explain, organisms and their intrinsic possibility in terms of the purely mechanical principles of nature. It is so certain, indeed, that it is an absurdity for men even to make the attempt, or to hope that another Newton may arise who could make so much as the production of a blade of grass intelligible in terms of natural laws that are not directed by a purpose. An insight of this kind must be absolutely denied us."

Perhaps the most helpful way of studying the present attitude of biology toward this question is to sketch its recent history, or at least a typical phase of that history. There is nothing more characteristic of the mechanical ideal in its practical working out than the effort to divide the larger bodies with which our experience presents us into spatial parts, to accord to these parts as few attributes as possible, then to seek to reconstruct the original body out of these *primordia rerum*. In biology the structure that first suggested itself as a convenient unit of composition was the cell, and the method which considered the cell to be related to the organism as the Democritian atom is related to the body composed of such atoms has been called the 'cell theory.' The distinct formulation of the cell theory goes back to Schleiden and Schwann. In 1838 Schleiden, confining his attention to plants, writes: "Each cell leads a double life, an independent one pertaining to its own development alone, and another incidental in so far as it has become an integral part of the plant." In 1839 Schwann extends the concept to all organisms: "Each cell is within certain limits an individual and independent whole. The vital phenomena of one are repeated entirely or in part in all the rest. These individuals, however, are not arranged side by side as an aggregate, but so operate together in a manner unknown to us as to produce an harmonious whole."<sup>1</sup> And again, "The

<sup>1</sup> Taken from Whitman, "Inadequacy of the Cell Theory of Development," *Journal of Morphology*, Vol. viii, pp. 639 ff.

whole organism subsists only by means of the reciprocal action of the single elementary parts."

Except for an occasional vagueness, such as the reference to "an harmonious whole," and except for the substitution of the 'life' of a cell for the mere 'existence' of an atom, the preceding description might have served Newton to depict the anatomy and physiology of all physical bodies, merely changing 'cell' into 'atom.'

Of course, the cell theory is not yet mechanical, since it merely assumes the living cell, and in connection with it implies terms of description and explanation that are not immediately susceptible of mechanical definition, nor even of physico-chemical definition. Yet since the phenomena of cell life are to a much greater extent capable of a physico-chemical treatment than those of the organism as a whole, it is natural that the cell theory should be looked upon by those who defend it, as well as by those who oppose it, as an effort in the direction of mechanical explanation, and that it should seem to an onlooker that a biology which found itself to be drifting away from the cell theory had abandoned the hope of mechanical explanation in its field. That biology is taking this course is the view of some of its most prominent representatives.

The writers in question, differing as they do on points of detail, are at least agreed on this proposition: That we know no laws of the individual cell or of the interaction of cells such as would explain the behavior of that aggregate of cells we call an organism. Some, at least, of the laws of the organism must treat it as indivisible. A favorite figure of those who take this standpoint,—the "organism standpoint," as Whitman calls it,—is borrowed from chemistry. "It can be shown, I think," says Morgan, "with some probability, that the forming organism is of such a kind that we can better understand its action when we consider it as a whole and not simply as the sum of a vast number of smaller elements. To draw . . . a rough parallel; just as the properties of sugar are peculiar to the molecule and cannot be accounted for as the sum total of the properties of the atoms of carbon, hydrogen, and oxygen of which the molecule is

made up, so the properties of the organism are connected with its whole organization and are not simply those of its individual cells, or lower units."<sup>1</sup> So Whitman compares the organism of many cells to a complex molecule. "The complex unit bears not only the structure of its individual parts, but also a totally new structure formed by the union of these parts."<sup>2</sup>

The concrete facts which these statements are intended to summarize are these :

1. The relation between two structures which the biologist calls 'homology,' may exist between a unicellular and a multicellular body. "So far as homology is concerned, the existence of cells may be ignored."<sup>3</sup>

2. In the process of development a unicellular organ may replace in one organism a multicellular organ in another. The laws of growth of an organism must be formulated in terms of the organism as a whole, and not in terms of its cells, if we are to have "continuity of organization." "Continuity of organization means only that a definite structure foundation must be taken as the starting-point of each organism, and that the organism is not multiplied by cell division but rather continued as an individuality through all the stages of transformation and subdivision in the cells."<sup>4</sup>

3. The important phenomena of regeneration.

(a) The phenomena of 'polarity.' "We find that a piece of a bilateral animal regenerates a new anterior end from the part that lay nearer to the anterior end of the original animal, a new right side from the part that was nearest the original right side, and a new dorsal part from the region that lay near the original dorsal part, etc." Since the character of the cells constituting the two surfaces of a single section cannot greatly differ, the nature of the growth on them must be due to the "structural relation of each to the whole to which each belongs."<sup>5</sup>

\*(b) The phenomena of growth. For example, in the growth

<sup>1</sup> *Regeneration*, p. 278.

<sup>2</sup> Whitman, *loc. cit.*, p. 641.

<sup>3</sup> *Ibid.*, p. 645.

<sup>4</sup> *Ibid.*, p. 646.

<sup>5</sup> Morgan, *loc. cit.*, p. 280.



of the tail of a fish after an oblique section, that part is found to grow the faster which has the greater growth to accomplish before it recovers its normal proportion to the other dimensions of the original. "These results show very clearly that in some way the development of the typical form of the tail influences the rate of growth at different points. Although the physiological conditions would seem to admit the maximum rate of growth over the entire cut-edge, this only takes place in those parts that give the new tail its characteristic form."<sup>1</sup>

So much for the organism standpoint and the concrete facts upon which it is based. Whether it does or does not present an obstacle to the realization of a mechanical ideal, depends upon the way in which it is interpreted, and, so far as I can discover, three constructions have been put upon it.

1. The cell being unsuitable to serve as a biological element which, itself without organization, produces an organism by division, combination, and interaction, a smaller unit is sought. "If the formative processes cannot be referred to cell division, to what can they be referred? . . . The answer to our question . . . will find the secret of organization, growth, and development not in cell formation, but in those ultimate elements of living matter for which *idiosomes* seems to me an appropriate name. What these idiosomes are . . . is the problem."<sup>2</sup> Such an outcome means that the organization standpoint is far from being a step away from the mechanical ideal; instead of posing the problem of physico-chemical explanation when analysis has been carried as far back as the cell, the whole discussion is postponed until we have arrived at the 'idiosome.' So understood, the organization standpoint means to correct, not the ideal of a biological unit, but the identification of the cell with that unit.

2. A second point of view is that defined latterly by Driesch, to whom the phenomena which we have referred to as organic appeal with particular force. The laws of regeneration and growth are not to be found in the properties of the cell, nor of any smaller organic element, nor of the inorganic constituents of

<sup>1</sup> *Op. cit.*, p. 133.

<sup>2</sup> Whitman, *loc. cit.*, p. 657.

organic matter. They "do not fall within any type of law known to the inorganic sciences, but require us to assume a new, peculiar, and peculiarly evidenced kind of elementary (that is, not further analyzable) law, and this necessity results from the fact that no physico-chemical mechanism can be imagined by means of which the phenomena in question can be reproduced."<sup>1</sup> The observations upon which Driesch bases so important a conclusion are not particularly recondite. Organisms can be found which have the following properties: (1) from any part the whole may be regenerated; (2) any part can be made to yield any part of the regenerated whole.<sup>2</sup> These characteristics give rise to two reflections. In the first place, the phenomenon of regeneration here studied cannot be subsumed under physico-chemical laws. For, observe the regeneration of any segment; at some point of the segment differentiation begins. If we are to explain the process in physico-chemical terms, either this point must differ in physico-chemical structure from its neighbors, or it must be differently stimulated from without. But the latter alternative is easily excluded by experimental control. Nor can the former be true, since any neighboring point could have been made the seat of differentiation by properly choosing the site of section. In the second place, the laws which the process of regeneration actually does obey are not mechanical, as may be seen from the following analysis of them.

Suppose we were given the problem to predict the point at which differentiation would occur in a given case. What data should we need, and what type of formula should we make use of? We should have to know (1) the type of organism to which the experimental fragment belonged, (2) the stage of the growth of each part operated upon, and (3) the site of the operation. We may, I take it, conceive the first datum to be given as a system of ratios, each point in the organism being characterized by the ratios of its distance from certain determinate points (say the poles of the axis or axes of symmetry). Such ratios are

<sup>1</sup> Driesch, "Die Lokalisation morphogenetischer Vorgänge," *Archiv f. Entwicklungsmechanik der Organismen*, Vol. viii, p. 99.

<sup>2</sup> To both of these statements there are obvious limits, which, however, do not affect the present discussion. Cf. *loc. cit.*, p. 72 f.

obviously independent of the absolute size of the mature organism, or of any other peculiarity of the individual case experimented upon. The second datum is given in the same way, though, unlike the first, it depends on time as a variable, or at least upon the typical ratio of the time taken to acquire a given form to the time taken to attain the typical form represented in (1). For any given experimental case data (1) and (2) are evidently of the nature of fixed parameters, and the point of differentiation will depend on (3), the site of the operation, as the only variable. We may readily imagine the working out of the formula in an illustrative case. Suppose the segment resulting from the experimental operation were a tube, and that the first differentiation "necessary to pass from this form to the type-form (1)" were recognized to be a constriction of the tube, we may imagine that our formula would yield us a coefficient dependent upon (1) and (2) and an absolute dimension, say the length of the single axis of symmetry from section to section determined by (3). We should then locate the constriction at a distance from one pole of the axis equal to a fractional part of the whole length of the axis, the value of this fraction being the coefficient calculated from the formula.

A science which makes use of such formulæ as the foregoing must be, in Driesch's opinion, *sui generis*.

There are many points in Driesch's article that would make interesting topics for discussion, *e. g.*, his conception of the 'type' as the 'end' of regeneration and growth, to attain which a given differentiation is 'necessary'; but the whole concept of end and of necessary means is better left for another occasion when it may be given fuller treatment. For the present, we may content ourselves with examining the two main theses of the argument as now explained. The first maintained that whatever the laws determining differentiation might be, they could not be physico-chemical; the second supposed itself in possession of these laws, and pointed out that they were not physico-chemical.

As to the first, let it be admitted that there is no difference definable in physico-chemical terms between the point at which

differentiation takes place and its fellows. There is yet a difference definable in geometrical terms, and with this must come a difference in the kind of stimuli affecting the point.<sup>1</sup> A somewhat analogous case is presented in the phenomenon of magnetization. Any point of a soft iron core may be made a pole by properly sectioning the piece, yet the piece of iron is physico-chemically homogeneous and we select a constant magnetic field. It is exactly its geometrical peculiarity that differentiates the physical conditions at this point from those that exist at neighboring points.

The second consideration points to the laws that determine differentiation, and shows that they are not physico-chemical in their nature. The chief distinction is that these laws state the processes that take place at one point to be a function of its geometrical relation to other remote points, making no mention of the structures that are located between these points.<sup>2</sup> In the fact that the laws of biology do neglect certain details, I think that Driesch has put his finger on that which characterizes biology as a science, and the peculiar way in which this elimination is effected ought to serve as a definition of this science. But the fact that by a process of elimination we can obtain laws in which new kinds of data are demanded, new kinds of formulæ used, does not mean that we have a new science, or, in the terminology of this article, does not show that we have introduced a new dimension. Nothing is more common in the handling of purely mechanical problems than to effect just this kind of elimination. Thus, to take one case, by calling approximately rigid connections absolutely rigid, we are able in mechanical systems to 'eliminate' coördinates, that is, to neglect detail. As a result of this elimination, we frequently obtain formulæ which introduce new terms. The law, "the work we can get out of a machine is equal to the work we put into it," is such a formula, and can be

<sup>1</sup> We here accept Driesch's contention that the stimulation of a point by its neighbors is as much to be accounted stimulus (as opposed to structure) as is the stimulation from causes quite independent of the organism.

<sup>2</sup> This I take to be the chief outcome of Driesch's demonstration of vitalism. His use of the concept 'action at a distance' is a help to the imagination to which the author is entitled if he be not confused thereby, and I see no evidence that Driesch has attached any undue importance to the device.

applied in practice to the measure of internal work without considering at all the construction of the machine.

In a word, Driesch does not show physico-chemical explanation to be impossible in the field of biology, and does not convince us that the formulæ here used are other than such as would result from eliminating detail in the physico-chemical process, after a fashion that is perfectly familiar to us.

3. The foregoing criticism of Driesch may be taken as a fitting introduction to the third interpretation of the organism view,—the one which, so far as the present writer has observed, is the most common among the biologists of the day. This view admits the existence of laws peculiar to biology, making it for the present an independent science in the sense that no knowledge of the physics and chemistry of the cell or of any other unit will enable us to replace these laws in the business of prediction. But though these laws may at present be indispensable and irreducible, though they may be permanently true and useful, the establishment of their existence cannot constitute a 'demonstration' of the vitalistic standpoint in the sense urged by Driesch. In spite of the absence of a physico-chemical explanation of such phenomena, is there any reason to suppose such an explanation to be impossible? Morgan sums up the data upon which we can base an answer, as follows. (1) The action of poisons, the formation of galls, the effect of lithium salts (Herbst), changes due to light, gravity, contact, etc., are best understood from the physico-chemical standpoint. (2) The effect of 'internal' factors is less easily brought under this point of view. Thus the growth of an egg "we find difficult, if not impossible, to attribute to external causes, yet . . . the first steps through which this takes place can be referred to physico-causal principles. These are the separation of the piece from the whole; the change of the unsymmetrical piece into a symmetrical one, brought about, in part at least, by contractile phenomena in the piece, aided, no doubt, in some cases by surface tension, etc. . . . We find here the beginning of a physico-causal change, and . . . we have no reason to suppose that at one step in the process this passes into the vitalistic causal principle." Having insisted upon the present

impossibility of offering a complete physico-chemical explanation, the author concludes: "Shall we, therefore, call ourselves vitalists? . . . I see no ground for accepting a vitalistic principle that is not a physico-causal one, but perhaps a different one from any known at present to the physicist or chemist."<sup>1</sup>

The preceding sketch of a certain phase of development in biological science has been given in the belief that it is here, if anywhere in experience, that we must look for facts that promise ultimately to resist mechanical explanation. If such facts were unanimously urged by the leading biologists of the day, one would still accept their conclusion with caution, realizing how difficult it would be to form an opinion as to what is 'ultimately' possible and impossible. But as it is, the weight of technical opinion, and of that branch of technical opinion which is most impressed with the error of certain hasty steps leading too directly toward the *quasi*-mechanical theory of life processes,—the weight of this opinion will recognize neither a 'demonstration' nor a balance of probability in favor of the failure of the mechanical ideal. If a layman may venture to estimate the best biological opinion, it would sum up to this: Laws which are not mechanical, such as those having reference to ends (Pflüger and Wolff), and those employing concepts like *actio in distans* (Driesch), are valuable in biology and make prediction possible where it would not be possible if we were to confine ourselves to mechanical terms; but this value is either temporary, while we await a better mechanical insight (Haacke), or if permanent, it is in the nature of an economic device. In any case, the existence of non-mechanical laws does not excuse us from the search for more elementary mechanical laws; still less does it give an assurance that such a search must remain permanently unsuccessful.

The writer has advanced the opinion that if the inadequacy of the mechanical ideal cannot be demonstrated from those aspects of nature studied by the biologist, then in no other region of experience can we expect to find such a demonstration. This opinion must be left for the present as a conjecture based on experience; the present paper does not pretend to have exhausted

<sup>1</sup> *Loc. cit.*, pp. 285 ff.

all the historical motives that have led thinkers to oppose the mechanical ideal. For example, it takes no account of the large body of opinion which opposes to the mechanical, not another kind of law (teleological, vitalistic), but the alternative of no law at all. In some of its aspects the doctrine of *liber arbitrium* would have to be so interpreted.<sup>1</sup> But these more general problems would carry us beyond the regions we could profitably discuss in brief space. We must, then, be content with the best example of opposition to a mechanical ideal with which history presents us, and pass on to a new question. If, namely, we can find in experience no obstacle to our progress in the direction indicated by the mechanical ideal, can we find any reason for supposing this progress to be necessarily continuous? Or, again, if we were to attain the goal defined, should we have reached the final solution of the problem of explanation? In a word, if there is no justification in present knowledge for predicting the failure of the mechanical ideal, is there any safer ground for predicting its success? But this chapter of the discussion must, as has been said, be reserved for a future occasion.

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<sup>1</sup> Perhaps the standpoint taken by Renouvier and Piat in their *Nouvelle monadologie* may be taken as giving the most systematic presentation. On this see the author, *PHILOSOPHICAL REVIEW*, Vol. viii, pp. 638 f.

## PURPOSE AS LOGICAL CATEGORY.<sup>1</sup>

THE category of purpose, after having fallen into discredit for a long time, has begun recently to reassert its right to a central place in philosophical theories and discussions. There is, however, an important difference between the old teleology and the new. The former view endeavored to interpret the world in the light of some objective purpose, which was regarded either as immanent in the world, or as having a transcendent existence in the mind of God. The new teleology, on the other hand, is subjective and individual in character, and maintains that in the needs and ends of our personal lives we find the only possible key to the interpretation and evaluation of reality. It is thus, as has sometimes been observed, essentially in harmony with that modern spirit which, as a foe to all absolutism, refuses allegiance to external standards, and judges everything in accordance with its bearing on human life and human interests.

There is nothing essentially new in principle, I think, in this general tendency of current thought. There is much in the doctrine that connects it with Fichte, and still more closely with Positivism, and with many forms of the neo-Kantianism of our own day. During the last dozen years or so, the theory has been advanced from many sides, apparently worked out from different standpoints, and with a correspondent diversity in its emphasis upon particular points. Mach, Karl Pearson, and many others who draw their material primarily from the physical sciences, agree with those who have approached the matter from the standpoint of philosophy and psychology in regarding thought as instrumental in character, and subordinate to the practical ends of human will. Professor James has expounded the doctrine in a number of essays, bringing into popular use the term 'Pragmatism' proposed some twenty-five years ago by Mr. C. S. Peirce. In the hands of Professor Dewey and those associated with him at the University of Chicago, the position has been much

<sup>1</sup> Read before the American Philosophical Association, Princeton, N. J., December 29, 1903.



strengthened and elaborated by being brought into connection with the general standpoint of evolutionary science. It thus appears as a comprehensive theory of experience, in the form of a genetic and evolutionary psychology that furnishes the general standpoint from which the problems of logic, ethics, and the other philosophical disciplines are to be worked out in a systematic way. Whatever one's final judgment may be, one cannot fail to receive intellectual stimulus and suggestion from this new movement, or to recognize the strength and persuasiveness of the exposition and illustration that it has received at Professor Dewey's hands.<sup>1</sup>

### I.

The general theses of the current teleological doctrines have been so often set forth that it is not necessary for me to attempt here any extended summary. Their fundamental postulates or principles may perhaps be stated in the following way: Thought is a particular function or activity within experience, not the universal form or constituent element of conscious life. It is always instrumental in character, having for its object the discovery of ways in which the purposes and needs of the practical life can be realized in action. It is thus always determined by its relation to a specific situation and to a definite problem. Moreover, its standard of success and test of adequacy is found in the practical success which it achieves. From this it follows, negatively, that thought has no ontological reference beyond experience. It is not its business to know or define a reality in any sense outside or independent of the experience of the individual. As a reconstructive function of experience, it necessarily works within

<sup>1</sup> As I do not intend in what follows to refer specifically to this position, though I have attempted to consider the principles that underlie it, a word in criticism of a general tendency that seems to be present in many if not all of its advocates may perhaps be allowed. What I refer to is probably a natural expression on the part of these writers of their enthusiastic belief and confidence in the novelty, importance, and all-inclusiveness of the method they are pursuing. It results, however, in a tendency to appropriate, as something peculiar to their own position, principles and insights that have long been common property, and thus to leave on the reader's mind an impression of hastiness or lack of accurate historical knowledge. The same unfortunate impression is also produced by the impatience shown in dealing with the views of others that leads these writers occasionally to anathematize their opponents as 'belated, prehistoric, anti-evolutionary ontologists.'

the limits that the latter sets, and in the service of the practical ends to which it gives rise.

These propositions are supported by various lines of argument. The obvious use and importance of knowledge for practical purposes, the historical fact that the sciences have grown up in response to practical necessities, and the close and essential connection between idea and action in the psychological life, are all brought forward by various writers. In addition, however, there are two lines of argument adduced that seem still more significant. In the first place, the purposive or teleological view is sustained by regarding thought as a function of life in general, which in itself sets no new ends, but appears upon the scene as a favorable variation in the service of ends already present, and can therefore be treated in analogy with the other functions of life. And, secondly, the supposed difficulties of the ontological or absolute view are made to furnish indirect or negative support to this position. For this new view of thought avoids, it is claimed, the insuperable difficulties and inevitable contradictions of any theory that assumes that thought has to know a transcendent object. Quite apart from the impossibility of understanding how thought could ever set itself such a task, the ontological view, it is claimed, affords no possible test of success or failure in its performance. 'No bell rings,' as Professor James graphically puts it, as a signal that thought has reached its goal.

When we turn to examine these arguments, we must say that at least those first enumerated do not seem conclusive, even if we accept them in the form in which they are commonly stated. That knowledge is actually employed as a guide of life, does not imply that this is its sole or even its chief function. It would be equally cogent to argue that the practical activities exist only as means to knowledge, since we do frequently find them employed in this service. Nor, in the second place, does the close psychological connection of idea and action require us to conclude that the former is subordinated to the latter. The process of knowing, as has often been pointed out, involves will and purpose in the form of interest, attention, and selection; but this is not a complete description of the psychological situation. In any genuine case of knowing,

there must also be present an objective interest, a detachment from the personal and private ends of our will, in order to permit the true end of knowledge to be realized. The facts of experience, then, when we look at all sides, seem to show that ideational life is not defined or determined by any merely individual end. Instead of separating the ideational and the volitional elements of experience, or reducing one to terms of the other, the facts of the case compel us rather to recognize them as distinguishable, though not distinct, moments in the total attitude of the self toward reality.

In the third place, it does not follow, even if we grant the premise, that because the sciences have been developed through the stimulus of practical needs, they have therefore no further aim or significance. In accordance with what Wundt calls the heterogony of ends, we may suppose that the process of development has brought into view in more highly evolved forms of conscious life a different end, — that of knowledge, — which may now be of supreme importance. Apart from this, however, the premise of the argument may well be questioned. In the early history of both the individual and the race, practical interests and needs are doubtless most insistent and absorbing, and largely dominate the life. Freedom from the most pressing needs of life is certainly essential to any progress in science. But it is doubtful if it is permissible to assume that the disinterested impulse toward knowledge is entirely absent at any stage of human consciousness.<sup>1</sup>

## II.

However confidently we may turn aside these commonplace ripples of argument, we cannot forget that there are two great waves still to be faced. To meet these we shall find it necessary to lay our course on the open sea with philosophical exactness, and to put our craft in the best possible condition to meet the shock.

<sup>1</sup> It has been the fashion in recent genetic studies to emphasize the dependence of the theoretical on the practical. But there are many facts in early forms of consciousness that are plainly expressions of a genuine wonder, — real intellectual curiosity, though of course in an undeveloped form, — that conditions in various ways the so-called practical activities.

The argument from biological analogy professedly carries with it the full authority and weight of 'current evolutionary science. It points out that the idea, like everything else, is developed as a necessary function within experience. The idea, it is said, comes in response to a definite demand for 'readjustment and expansion in the ends and means of life.' It thus works in the service of life, having for its object to readjust habits in the light of new situations, to loosen tensions that arise within experience, and, in general, to quiet uneasiness, restlessness, and pain. Now, it is to be noted that, if thought is to be regarded as analogous to other functions of life, it cannot be taken as setting any new ends of its own that are independent of the ends of the life of the organism in which it has arisen. The problems that it is called to solve are never theoretical problems, difficulties set by the intellect itself. For if this were the case, the biological view of thought would be completely out of court; for thinking would be no longer merely performing the task prescribed by the organism, or by unreflective experience, but seeking to realize an end which is quite different in character.

This point requires to be carefully noted; for just here, as we shall see more explicitly hereafter, serious ambiguity arises in the use that is made of terms like 'practical,' and 'the demands of life.' It is surely clear that one cannot blow hot and cold at the same time, and that from the standpoint of the present argument 'practical ends' must be limited to those which belong to the organism, or which are in some sense antecedent to thought. If thought sets any ends of its own and works for their realization, it is surely clear that it cannot be regarded as a particular function of life, and treated as analogous to the other biological functions.

The whole point at issue here, then, is whether thought can be adequately described as a particular function of experience. When we take the external point of view, looking at the psychophysical individual as an object of scientific investigation, we can only construe thought in this way, and such an interpretation has a certain truth,—it may be that this is the only truth about thought that biological science is able to furnish. But philosophy, as the

science of experience, occupies a different view-point from that of the special sciences. It looks at experience from within, not as an object, or a collection of objects, but in its immediate relations to the knowing and willing subject. Now, from this point of view, the thought function is seen to be central and constitutive, not an external process of reflection superinduced upon life or experience. The dualism that is implied between the ideational process and a life of habit or feeling, or of immediate values, has no real existence, but results from the abstraction that is forced upon us when we look at experience from the outside. From the internal view-point of self-consciousness, however, thought, — not as an abstract reflective principle, but as the concrete and self-conscious attitude of the self, which includes will and purpose as an essential moment of its own life, — thought, in this sense, is seen to be the central principle that gives to experience its significance and its possibility of interpretation.

In the light of this position it would seem to follow that the so-called 'practical' ends can never be final or independent ends for a rational being. They only find a place *within* such a life by being included as means within the ultimate ends or ideals in which the self expresses the unity and completeness of its own life. In the realization of a string or series of particular purposes that are not subordinated to an ultimate end, there can be no true self-expression or self-realization.

We have at length come to consider the indirect support that the instrumental view of knowledge receives through the alleged incapacity of all ontological systems to explain how thought can deal with a reality that in any sense transcends experience. There is no test of thought, it is urged, but the practical test of success as shown by trial and experience itself. Reality as an ontological system, eternally complete and finished, and thus contrasted with the incompleteness and growing adequacy of our experience, is an unmeaning abstraction, something that does not function at all in our thought and is dumb to our successes or failures.

I certainly cannot escape the conviction that those who put their objections in this form have not understood the position of their opponents. Everyone would admit that there is no external test of truth, and that the standard must be found within experience itself. But the question recurs: What is the nature of experience? And it is in the reading or interpretation of experience that many idealists take issue with those whose arguments we are examining. If, as the latter maintain, the experience of the individual, in its essential nature, is isolated and detached as a finite phenomenon, if the nature of a larger whole does not function constitutively within it in the form of universal principles, then *all* tests of truth are impossible, practical tests no less than theoretical, as I shall presently show. But if (as I have always understood idealists to maintain) experience by its very nature involves a reference to reality, the case is not so hopeless. For then the reality which is taken as a standard is not external, but functions as an immanent principle within experience. It does not, however, fall wholly within any individual experience, but exists as the extension and supplementation that individual experience seeks and demands. It is this relation of individual thought to the reality that is at once continuous with it and also its necessary complement and fulfilment, that finds expression within experience in the aspects of universality and necessity. These are not characteristics of ideas as such, nor is an idea made universal through the fact of its existence in all minds, but it only partakes of universality and necessity through being an element within an experience that has the nature of reality bound up with itself.

The objective or ontological view does not then have to undertake the impossible task, which its opponents would thrust upon it, of explaining how thought-in-itself can know reality-in-itself. There is no warrant whatever for identifying this form of idealism with the older representational theories of knowledge. The truth is that it was just this school of thought that first showed both the inadequacy of representationism, and the possibility of avoiding its difficulties by starting from a truer and more concrete view of experience. Thought, idealism points out, has no existence as something standing apart from reality; but, in Hegel's

graphic words, it is its very nature to shut us together with things. No bell then is necessary as a signal that our thought has touched reality; every real thought has some degree of truth, even although the proposition in which it is expressed may not be adequate to the expression of this truth. The real problem in any given case, therefore, is to determine which of two or more possible ways of judging about reality is truer and more adequate.

Here the appeal is to experience itself, but to experience as systematized by thought. It is to be noted, however, that the system to which we appeal is not a fixed circle of abstract ideas that have the power of determining truth through their own internal consistency. It is rather the concrete and fluid process of thinking, in which the nature of reality functions effectively, both as something already partially determined, and also as that which sets the ideal for further determination. As thus an active process of transformation directed towards the realization of an ideal, thought seeks to extend and supplement its present content. It looks before and after, and seeks guidance and direction from every quarter. To this end, it appeals to direct perceptive experience, and makes use of trial and experiment as its instruments. With the same object of broadening its outlook, it makes use of the opinions of other men, testing and correcting its own conclusions by the light which these results afford. Herder has well remarked that it is not without significance that the word *Vernunft* is derived from *Vernehmen*, to learn or give ear to. For reasoning involves, as one of its essential moments, a looking abroad and learning from every quarter, not in an attitude of passive receptivity, but with a mental alertness and selective attention that employs the whole process of experience as a means of realizing and fulfilling its own ideal.

For this view of reason we are indebted to the men who inaugurated the historical movement at the beginning of the nineteenth century. For the eighteenth century rationalists, reason was something limited and self-enclosed. That is, they commonly assumed that every normal person had only to look into his own consciousness to know what is reasonable. Reason was thus regarded as an infallible organon, which each individual car-

ried with him as a private possession, and which had the power to determine truth by means of the laws of formal consistency.

Now, in abandoning this abstract conception of thought or reason as a thing-in-itself, it is necessary to avoid the opposite error of resolving thought into a mere plurality of experiences, into consciousness of the result of movement, for example. For it is impossible to dispense with the functional reality of thought as a guiding and controlling principle. This principle is not merely regulative of experience, but constitutive as well; or, rather, we may say that it is constitutive just through the fact that it is regulative. In other words, thought, in its work of determining reality as a system, operates not only through retrospective categories, but possesses in a certain sense the power of prevision, and this prospective reference, as guiding purpose and ideal, operates effectively in building up the system of truth.

It is only when we take account of these facts that we can find any meaning in the conception of 'workability' as a test of truth. Those who emphasize the all-sufficiency of this practical standard, however, usually assume that it is a new principle come to supersede and destroy, not to fulfil, the claims of the older logical principles. At this point a little reflection will show that the conditions under which the practical test is applied presuppose logical thinking as their necessary framework and background. It may be said that the practical criterion of 'workability' merely asserts that the test of any present system of experience is the future experience that comes through trial and experiment. It means simply, it may be said, that present ideas must be tried by their future results. But we can maintain with equal reason that the *present* system of knowledge furnishes the standard by means of which we must judge of the future. This antinomy obviously has its source in the abstract separation of present and future experience. Instead of being external and independent centers that exercise authority from the one side or the other, future experience and present experience necessarily imply each other, the present looking forward to the future for its completion and correction, the future looking back to what is for it the past. Now, this reciprocal implication and determination of parts presupposes



that these parts are elements of a rationally coördinated system. It follows, therefore, that the so-called practical test that judges of the truth of an idea by its results, is applicable only when it is used within a rationally determined system of thoughts that contains as immanent ideal its own principles of criticism. (Everything works in some way, but the practical question always is, How does it work?)

Passing from this point, we may find that some further explanation and justification are still demanded of the proposition that thought is necessarily and organically connected with an objective reality. How is it possible, it may be asked, for reality to be at once both within and without an individual consciousness? It is impossible to deny that the consciousness of each person has an aspect of uniqueness, in virtue of which it may be said to be strictly self-enclosed and particular. But the facts of experience, impartially and comprehensively viewed, compel us to recognize another moment of mind as equally essential to its true individuality. This is expressed through the principles of universality and necessity, which are, as we have seen, marks of the functional efficiency of the objective ideal. This ideal, though a part of present experience, points always to a system of reality in which it is completely fulfilled and realized. Nevertheless, the fact that the objective world functions in individual consciousness as an *ideal*, does not exclude its reality either within our consciousness or without it. For the ideal and the real are continuous with each other, and complementary in nature, not separate and opposing modes of existence. It is the presence of reality as ideal in our consciousness, — not as something that is already attained, but as the mark to which we press forward, — that differentiates our thinking from the aimless play of subjective ideas.

This view, I venture to think, makes no impossible demands, and appeals to no questionable hypotheses. It appears to me to be simply a more complete and adequate reading of the facts of experience than that furnished by its opponents. The relation of the mind to reality, — to a world of things and persons, — is given with the very fact of conscious experience. If we find no difficulty in ascribing an objective reality, in the ontological sense, to

persons, — if we do not reduce our fellow men to functions within experience, — why should we pronounce it unmeaning to give the same kind of reality to things? Recent investigations into social and genetic psychology have emphasized in a striking way the fact that it is the very nature of the individual consciousness to transcend the limits of its own particularity, and unite with other individuals. This social relation, we say, is not external and accidental, but a real and constituent element in the life of the individual, the nature of the *Alter* being essentially involved and included in the nature of the *Ego*. Now, if we find no obstacle to prevent us from admitting the transcendence by the individual of the bounds of its particularity in this social connection, why should we make a difficulty in the case of objects in general? Our relations to persons are, indeed, more intimate and also more varied than are those in which we stand to things. Moreover, we may perhaps say in general that these relations continue to lose something in intimacy, variety, and emotional warmth, as we pass downwards through the various forms of organic life to the objects of inorganic nature. But there is no difference in principle between the mode in which we know persons and that in which we know things. Furthermore, we have also to admit that the feelings and emotions that seem distinctive of our attitude toward persons are not original, but have grown up through experience: persons are only gradually distinguished and classified by the child as different from other objects of the real world.

### III.

I have thus attempted to examine the main arguments of those who interpret reality in terms of will and purpose, and to answer the objections that are most insistently urged against the older view. It now remains to indicate briefly the chief difficulties that seem to me inherent in this modern form of teleology. As these objections have been more or less explicitly anticipated in what precedes, I shall confine myself to a brief statement that will to some extent serve as a summary of my paper.<sup>1</sup>

<sup>1</sup> It is somewhat remarkable that those who uphold the teleological or instrumental view of knowledge have as yet devoted almost no attention to answering the serious and legitimate objections that have strongly urged against their position from many sides.

1. We have already had occasion to refer to the ambiguity that in this use attaches to the word 'practical,' as well as to the terms 'end' and 'purpose.' These words seem to be employed by this theory to cover two modes of consciousness that are usually, at least, regarded as essentially different. In some cases the 'practical' end for the realization of which thought acts as an instrument is material in character and involves physical movements; as, *e. g.*, to supply food, provide shelter, or in some way to minister to the needs of the physical organism. In other connections, however, the term 'practical purposes' is broadened to include intellectual interests and problems that concern only the relation of the thinking process to itself, and have no discoverable relation to biological needs or to physical movements. The employment of terms in this shifting sense seems to have resulted in a certain confusion of the issue, and to have led to a slurring over of one of the fundamental difficulties in the position. Moreover, the claim of the position to novelty depends to a very large extent upon its adoption of the narrower and more usual interpretation of what is to be regarded as a practical purpose. If these words are used to include the ends of knowledge, there is nothing essential gained, so far as I can see; the logical problem still remains, and here analogies with the course of biological evolution and arguments based on these analogies cannot help us.

2. From the standpoint of the position we have been examining, one cannot consistently speak of supplementing or broadening the individual standpoint by reference to social purposes. For, as we have seen, the recognition of other individuals, and of our own relation to them, requires the adoption of the transcendent and ontological position against which the instrumental view levels its heaviest artillery.

The instrumental view must, then, logically remain purely individual (cf., *e. g.*, James Seth, "The Utilitarian Estimate of Knowledge," *PHILOSOPHICAL REVIEW*, Vol. X, pp. 341 ff.; W. Caldwell, "Pragmatism," *Mind*, No. 36, pp. 433 ff.; B. Bosanquet, "Imitation and Selective Thinking," *Psych. Rev.*, X, pp. 404 ff.). The explanation of this is probably to be found in the belief that the further development of their principles affords the best answer to objections, and is at the present time of fundamental importance. Nevertheless, a fuller and clearer definition of the view is urgently demanded in the light of the criticism to which it has been lately subjected.

vidualistic. As such, it necessarily fails to do justice to the objective and universal aspect of experience. For a series of individual purposes, as a description of objective reality, is surely open to all the theoretical objections that have been so often urged against a series of subjective feelings ; while, if taken seriously as a standpoint for ethics, the doctrine seems open to the gravest objections.

3. A string of individual purposes also fails to afford any unity to life and experience. But there is actually such a unity present, if not in realized form at least as ideal, in all rational life. We must conclude, then, that in maintaining that it is always in the light of particular definite purposes that experience must be interpreted, the instrumental view is emphasizing what in themselves are not true ends of thought at all, but only subordinate ends that find their meaning and place in rational experience from their relation to a universal and dominating end. Without the reference of the various practical purposes to the unity of such an end, experience would remain a chaotic assemblage of elements completely lacking true unity and consistency.<sup>1</sup>

4. In spite of the claim made by its advocates that this theory avoids dualism, it yet introduces a sharp opposition between immediate experience and the ideational process. This opposition does not seem to be warranted by an analysis of consciousness itself. On the one side, the theory seems to place experience or conscious life, consisting of feelings, impulsive and habitual reactions, and immediate appreciations of values. Out of this, as a ready-made prius, or an antecedently existing matrix, thought arises as a process of reflection, or a function of transformation and readjustment. Thought is thus necessary to the further development of experience, but it does not appear to be in any sense organic to it ; for experience can apparently exist in independence of thought. Even when it is pointed out that thought arises *out of* experience, the difficulty is not fully met ; for it comes, not as the development of a principle already immanent in, and constitutive of, the earlier stage, but as a variation, or *deus ex machina*, that introduces something entirely new. There is thus a departure, I think, from the procedure of the true evolutionary method.

<sup>1</sup> Cf. Bosanquet, *Psych. Rev.*, X, pp. 404 ff.

5. What I have already set down must stand at present as justification for the final statement of my paper, that the view of experience we have examined, instructive and valuable as it is in many of its aspects, is only valid in so far as it rests upon a logical and ontological basis that is quite different from that which it claims for itself. It seems to me that I have shown that, in several of its arguments at least, this theory does implicitly rest upon such a basis. Even constructive thinkers do not always remember that the underlying principles of experience are not explicitly asserted in consciousness, as are particular facts, but rather are implicitly asserted or assumed. It is therefore easy, from the standpoint of common sense and natural science, to fail to recognize consciously a background that is all the while presupposed as the support which gives the facts of experience their meaning. If the 'instrumental' theory were to develop consistently its presuppositions, its claim to be an independent and self-sufficient method of philosophy would, in my judgment, at once appear as groundless and impossible.

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## THE MEANING OF THE PSYCHICAL FROM THE POINT OF VIEW OF THE FUNCTIONAL PSYCHOLOGY.<sup>1</sup>

IN two papers previously read before this Association,<sup>2</sup> I have maintained that the distinction of the psychical and the physical represents simply a functional division of labor in the statement of experience. There is no such distinction, or it is inoperative (which amounts to the same thing), so long as experience flows on smoothly, so long as in the midst of our action we do not 'stop to think.' It is the purpose of the present paper to consider somewhat more closely the meaning of the psychical in relation to that process of tension in experience which we have defined as the condition of consciousness.

### I.

With the advance of a science we naturally expect to find a reconstruction of the meaning of its fundamental concepts. This is true in psychology of the concept of the psychical. The most important recent advances in this science are those along the lines of genetic and social psychology. A genetic and functional mode of viewing experience has been taking a more and more prominent place in psychological discussions in the past few years, as contrasted with the analytic and structural, which still is the prevailing standpoint. By this is meant that experience is viewed as a process, with moments or functional phases, rather than as an entity or thing capable of analysis into structural elements or units. The structural analysis of experience is not denied value in its proper place, but, from the standpoint of method, it is shown to be instrumental to this functional view. Cross-sections of the process are taken at different points, and an analysis is made of the elements found in these cross-sections.

<sup>1</sup> Read in part before the American Philosophical Association, Princeton, N. J., December 30, 1903.

<sup>2</sup> Published in the *PHILOSOPHICAL REVIEW*, September, 1902, and May, 1903.

But the section and the analysis are ultimately for the sake of getting more efficient control of the process.

No one has made this clearer than Professor Royce in his critique of the doctrine of conscious elements in his recently published *Outlines of Psychology*. It is here shown that the element obtained by this analysis (for example, the sensation) is as much an artifact as is the atom in physical science. It is brought into existence as such for the first time in the act of analysis. Hence its only use is one similar to that of the atom in physics. It is a convenient tool in explaining the actual facts of the stream of consciousness. The justification of the whole range of analysis in the structural psychology can be found only in its methodological utility in explaining the concrete process of experience.

We may ask, then, how experience is viewed from the functional standpoint. From this point of view, experience is regarded primarily as a process. This is simply carrying over into psychology the general dynamic standpoint common to all science at the present time. By process here is meant activity, without specifying that it is either physical or psychical. The most fundamental statement that we can make about experience is that it is action. It is as much action when it is conscious as when it is unconscious, but the conditions of conscious action are different from the conditions of unconscious action.

What are the conditions of consciousness? What are the laws which determine when an act becomes conscious or ceases to be conscious? These are: the law of tension or obstruction in activity, and the law of habit or facilitation in coördination.

By the law of tension is meant simply this, that consciousness appears only when the process of action is relatively impeded or interrupted. Action is going on all the time, in tropism, reflex, and instinct. But these become consciously performed acts when there arises stress in adjustment, whether the focus of the tension be intra-organic or extra-organic.<sup>1</sup>

<sup>1</sup> Why there ever should be resistance or obstruction in action is an ultimate question here as much (and as little) as in physics. The Hegelian doubtless would say that pure spontaneity posits resistance as its own other. The evolutionist is apt to attribute it to the environment. But the scientific psychologist no more asserts that he

The whole of psychophysics is but an illustration of this law of tension. What is the significance of the determination of thresholds, of the lag of sensation behind stimulus, of the summation of stimuli in order to produce a given sensational effect, of the Weber-Fechner law, unless it is this, — that tension is the condition of consciousness, and that there can be no tension unless there is not only a tendency in the organism in one direction, but also an inhibitory tendency operating with reference to this in the opposite direction? Lag of sensation, or summation of stimuli (which are simply obverse sides of the same fact), represent the limits within which operates that tension which is the condition of consciousness. The Weber-Fechner law marks the working limits of this tension.

But why just this relation, it may be asked? Why this particular law, that sensation increases as the logarithm of the stimulus? It may be replied that investigation has shown that this ratio is not a constant one for all intensities of stimulus; the formula holds only for stimulations of moderate intensity. It does not hold for either maximal or minimal ranges of stimulation. Moreover, Heymans<sup>1</sup> has restated the law so that it reads simply that sensations increase in direct proportion to the increase of the stimulus. That is, if we rule out the influence of disturbing or inhibitory stimuli, the Fechner part of the statement of the law is not true, but only the original formulation of Weber, that the increase of sensation is proportional to the increase of intensity of the stimulus. The Fechner formulation holds only of a stimulus operating in the presence of innumerable other stimuli whose inhibitory effect upon the operation of this stimulus is thus roughly expressed.

The tension (and thus the consciousness) lasts as long as the dominance of the relevant stimulus over the competing stimuli.

has accounted for the presence of this element of opposition which polarizes consciousness than the biologist accounts for the principle of variation in evolution or the physicist for the collision of atoms which is one of his fundamental postulates. It may be that tension or opposition is a necessary implication of the idea of activity or process.

<sup>1</sup> "Untersuchungen über psychische Hemmung," *Z. f. Psych. u. Phys. der Sinnesorgane*, Bd. xxi, Heft 3, pp. 321-359; Bd. xxvi, Heft 5 u. 6, pp. 305-382. Cf. Stratton, *Experimental Psychology and Culture*, p. 13.



It ceases (and consciousness lapses or begins to lapse) as soon as it succumbs to these. This succumbing to these other stimuli is just what we mean by the facilitation of a coördination, the lapsing into an habitual mode of reaction. Differences of reaction-time mean differences in facilitation or habituation of organic circuits (sensorimotor coördinations). This marks the time limits of the tension, as psychophysics marks the limits of intensity and extensity.

The whole study of sensation in modern structural psychology, especially in psychophysics, is really a technical investigation of the nature and limits of this tension. Genetic psychology is a study of the types of experience within which tension arises and of the changes which one type of experience (such as instinct) undergoes in the process of the emergence of consciousness (in impulse), and its transformation into another type of experience (habit). The so-called functional psychology is simply an attempt to relate the results of both these forms of psychological investigation to the process of reconstruction of experience as a whole; it interprets structure in terms of function, and function in terms of the genesis and growth of structure.

Biology and psychology state the same tension, but in terms of different techniques. Both the psychologist and the neurologist state the tension in terms of action; but they start from such diverse standpoints and their technique and terminology (because of purely historical conditions) are so different, that we have a problem, or think we have a problem, of conflict between them which does not really exist, — the problem of the psychical and the physical, so transparently masqued in the current hypothesis of parallelism.

The relatively tensional phase of action is continuous with the relatively stable phases preceding and succeeding. There is no infringement of the law of conservation of energy. We simply have one name (the term 'consciousness' or 'psychical') for describing action when it is tensional, and another name (the term 'habit' or 'physical') when it is relatively stable.<sup>1</sup>

<sup>1</sup>Professor Ostwald ("The Philosophical Meaning of Energy," *International Quarterly*, June, 1903) is on the right track in attempting to fuse the ideas of 'psychical' and 'energy,' but he fails to distinguish the respective functions of these important aspects, the relatively stable and tensional phases of action.

The distinction is confessedly a practical or teleological one, a distinction which holds for the situation or problem only; but it is no less valid as a distinction because it is relative only to a given type of situation and only under a given set of conditions.

A contribution has recently been made to the understanding of this problem in a paper by Professor George H. Mead, on the "Definition of the Psychical," in the *University of Chicago Decennial Contributions to Philosophy and Education*, Volume I. According to Professor Mead, my experience, as I am at this moment experiencing it, the actual process of my being my present conscious self, is psychical. My feelings, ideas, volitions, as I now am having them, are psychical. But the moment I reflect upon these experiences as mine, as soon as I make this feeling or idea or volition the subject-matter (the object-matter) of my thought, it ceases as process and becomes content. It may become an ethical, an economic, a political, a scientific content, according to my purpose or interest in studying it. It may become a psychological content, *i. e.*, it may become a datum of the science of psychology. But if we use the term 'psychical' in describing this datum, we must recognize that this use of the term is a very different one from that indicated above. *We must distinguish the true psychical of immediate experience from the psychical as an object of psychological retrospection.*<sup>1</sup> The true psychical, according to Professor Mead, is the immediate fact of experiencing. Any experience is psychical if, and in so far as, it is not the content of reflection, but at the time being experienced, *i. e.*, is the process of reflection itself. As soon as we turn back upon this experience to analyze it or to reflect upon it in any way, it ceases to be the process of my experience and becomes a content in my experience, a content treated either as something to be explained (in logical terms, the subject of the judgment) or as the explanation of something else (the predicate of the judgment). In order actually to explain this content or actually to use it in explanation of another content, there must, of course, be a new judgment; the process of experience must be resumed, it must become psychical again. This is the copula of

<sup>1</sup> Cf. Professor Baldwin's distinction between the 'psychic' and the 'psychological,' discussed below.

the judgment. *The psychical is the copula.* Thus experience grows out of one content into another content in and through the process — which is the psychical. New social, political, ethical, economic, æsthetic, scientific, philosophic, psychological values or contents are achieved only in and through psychical individuality. The psychical is experience as process, and psychology is the science of the content of experience with the reference to this process of reconstruction made explicit. As Külpe puts it, it is the dependence of facts of experience upon the experiencing process which makes them psychological data.

This thought is worked out from a different point of view by the late Professor Adamson in his *Development of Modern Philosophy*.<sup>1</sup> "Facts of mind, psychical states . . . can never be directly presented as objects." "When we describe the facts of mind as a series of events in time, we are vainly trying to regard them from the point of view of an outside observer. We are not describing them as they are for the consciousness they compose. There they are not objects of which the subject is aware, but ways *in* which he is aware. . . . It seems more true to say that the subject *is* his mental states than that he *has* them." <sup>2</sup>

Strangely enough, Professor Adamson makes this the basis for rejecting "the conception of psychology as a kind of natural science."<sup>3</sup> The truth would seem to be rather that this is just what furnishes the basis for conceiving psychology as a natural science, since if there can be no science of the psychical as such, psychology must deal with phenomena on the same level with the other natural sciences. We can have a science only of an objective content; in truth, content as such is by its very nature objective. The peculiarity of psychological science is simply the closeness of the reference of the content to the process from which it is an abstraction.

In psychology we treat one content as the means for getting another content. This involves reference to the mediation of one content by another, *i. e.*, it involves reference to the process

<sup>1</sup> Vol. II, chap. iv, "Psychology and Epistemology," especially pp. 56 f.

<sup>2</sup> Pp. 58-59.

<sup>3</sup> P. 60.

of the reconstruction of experience. We cannot directly state this process. To state it would be to stop it; it would convert process into content. The psychological is a good deal like the histological procedure in biology. You have to stop the dynamic life functioning and cut the specimen into thin sections, artificially distorted by hardening reagents and staining fluids, in order to analyze its structure. You have to kill it in order to state it. "Our meddling intellect misshapes the beauteous forms of things. It murders to dissect." Yet we recognize that there is a life process, and we attempt to interpret this structure in terms of its functional importance in carrying on that process.

Ultimately, every content, every datum of science, would have to be stated in terms of every other content, in terms of the data of every other science, before the scientific statement would be complete, and this would involve comparison of the contents in terms of their different degrees of mediation in experience; that is, it would involve reference to the process of experience, to the psychical. The content of physics or chemistry or biology, as truly as the content of psychology, would have to be brought back to this ultimate test (its availability or serviceability for getting further experience) before it could be said to be scientifically (philosophically) complete.

The distinctions between the sciences, in the last analysis, are only divisions of labor, and, thus viewed, we may even agree with a recent writer that "our mental life must be interpreted ultimately in relation to the physical world," that "the ideal psychology is a physiological psychology."<sup>1</sup> This does not mean that psychology reduces to the physiology of the nervous system, as the latter is ordinarily conceived. But it does mean that the data of psychology are as truly objective as those of any other science. Both psychology and physiology are ultimately a study of the reactions of the organism, and both must be brought back to the process of experience before their statements can be made wholly adequate. The difference is that this reference is more implicit and remote in physiology than in psychology. Psychology as a science is but one step removed,

<sup>1</sup> W. T. Marvin, *Introduction to Philosophy*, p. 176.

while physiology is two steps removed, from the process of experience. It is this difference in the remoteness of the reference to the psychical which constitutes the lines of division between the various sciences.

It is only recently that psychology has been generally conceded this place among the natural sciences. The concession has grudgingly been made, and many who by the logic of events have been forced to make the concession are not even yet willing to abide by all its implications. One of these implications is this fact that the data of psychology are as objective as those of any other science. As Professor Baldwin puts it in his latest book,<sup>1</sup> this concession means that the data of psychology are "viewed from the outside; that is, viewed as a definite set or series of phenomena . . . recognized as 'worth while' as any other facts in nature." "The occurrence of a psychological change in an animal is a fact in the same sense that the animal's process of digestion is." "For science all facts are equal."<sup>2</sup>

But many who would agree with Professor Baldwin on this point do not seem to realize that this necessitates a reconstruction of the very idea of psychology and of the psychical. Of psychology, because it has been supposed that the data of psychology are unique and that psychology on this account is fundamental to all the other sciences, while this view places it alongside of the other natural sciences with no special privileges. Of the psychical, because it has been supposed that psychology deals with the psychical as its datum, while on this view the data of psychology are objective and not subjective, are 'psychological' and not 'psychic,' to use Professor Baldwin's terms.<sup>3</sup>

<sup>1</sup> *Development and Evolution*, pp. 4 f.

<sup>2</sup> Whether Professor Baldwin consistently adheres to this point of view in his subsequent statements, is a question which has been discussed by the present writer in a review of the book in the *Journal of Comparative Neurology*, Vol. xiii, No. 4 (Dec., 1903).

<sup>3</sup> This would seem to be the thought expressed by Professor Royce and by Professor Münsterberg in the distinction between the world of 'appreciation' and the world of 'description.' There is no science of appreciation as such, because it is process and not content. The same thought is expressed also in the common statement of the impossibility of studying the feelings without transforming them. In studying them we make them objects of thought, and thus no longer process but content.

## II.

Now what, from this point of view, is the true meaning of the psychical regarded as content and as the datum of psychology? We are accustomed to think of the psychical as belonging exclusively to the individual. We hear much concerning the impossibility of constructing a psychic series for other minds than our own, that no one can get beyond the pale of his own consciousness, that his own consciousness is the only consciousness of which he has any direct knowledge, and so on.

That there is a fallacy here somewhere has long been suspected, but it is difficult to lay one's finger upon the source of the error. A number of writers have insisted that introspection, strictly speaking, is an impossibility. Its validity has been called in question by such writers as Comte, Lange, and Maudsley. Others insist that all introspection is really retrospection, *i. e.*, not *introspection* at all. But, it will be replied that, even if introspection does reduce to retrospection, we have in the latter an immediate type of experience differing from all other experience. Is this true?

If there were a perfect mirror at the end of the room in which I am sitting, and I had never tactually explored that end of the room, I should be unable to distinguish (visually) between the actual room and the reflected image of the room in the mirror. Suppose, as Gustav Spiller puts it, "I now shut my eyes, and redevelop the sight of the room. Does this image fundamentally differ from the object and the looking-glass picture?" "Except for unimportant circumstances, the primary and secondary visual worlds, or the visual worlds of sense and imagination, are one."<sup>1</sup> This certainly is in line with other similar explanations of psychic phenomena in physiological psychology. It is in harmony with the tendency in recent years to explain all images as simply prolonged after-images (more properly called after-sensations).

Now does not this suggest that what we call this unique, inner, immediate, direct, unsharable experience is, after all, arrived at as inferentially as any other experience, that there is no essential

<sup>1</sup> Spiller, *The Mind of Man*, p. 322.

difference in principle between the so-called external mirror and the internal mirror, that the image in the mirror of memory is not essentially different from the image in the looking-glass? The more will this appear to be true, when we recall the tendency in recent psychology to conceive of memory (Hering) and association (James) in terms of habit and in terms of physiological traces in the brain. In principle, as a mirror for reflecting objects, the brain does not differ from the silvered square of glass or from the photographic plate.

If, then, memory (retrospection) is essential to any introspection, and the brain (the organ of memory) does not differ essentially from the physical mirror, how do the reflected phenomena in one of these mirrors differ *in principle* from the reflected phenomena in the other?

Is this, perchance, the real solution of the old puzzle of subjective idealism? Is the distinction between the introspective world (the world of consciousness revealed through memory) and the external world, in the last analysis, simply another illustration of a self-made problem, — a problem arising out of the scientific abstraction of things that in reality (*i. e.*, in concrete experience) are not thus separated? And is this, perhaps, the core of meaning in the insistence by certain recent writers on the fact of 'inter-subjective intercourse' and the essentially social character of consciousness?

From this point of view there is no mysterious uniqueness about consciousness. A great deal has been written about the unsharability of consciousness. The statement has repeatedly been made that one can never really get into the mental life of another person, that one cannot get at another person's consciousness directly. But this is not in any sense a unique phenomenon in nature, if we take an organic view of the relation of the individual to society. The mere fact that, in the case of human beings, the so-called individuals are separated from one another by a certain distance in space, rather than constitute a colony or so-called compound individual, as in the case of the sponge, does not render it any less true that they really all form one organic whole. Society is an organism in the same

sense that the human body is an organism. "The cell, the individual, and the race, are merely units of different order in the world of living substance."<sup>1</sup> Individuals in human society are most of the time separated physically by inches (Siamese twins), by feet (members of the same family), by miles (friends and acquaintances), by a hemisphere (races on different sides of the globe). The individuals of a sponge are separated only by a cell-wall. In both cases the real biological connection is the reproductive nexus, the germinal substance. What is the fact of a micromillimeter or of a mile? If you could look at the body with a microscope of sufficient magnifying powers, it would be seen that its molecules are relatively as far apart as the different individuals which make up society. What we call the individual organism is a fragment arbitrarily torn from nature, a part distinguished simply for convenience from the rest of the universe. It is a scientific fiction, an abstraction from the whole. The individual organism, except for practical purposes, does not stop with the cuticle. At what point does the air that is breathed or the food that is eaten cease to be a part of the environment and become a part of the organism? Any line that you draw, from a scientific point of view, is an arbitrary line, a mere practical working device or make-shift in explanation of the facts (though not on that account any less valuable methodologically).

From this standpoint, the so-called individual simply represents a fragment of the whole universe, or, taking society as the true human individual, the so-called individual man would represent simply a member or organ of this greater (social) organism. Now if an adjustment is being made in the universe, and I happen to be in the focus of that adjustment (and myself, as a part of the whole, coöperating in that adjustment), then, of course, every other part of the universe, every other part of the great human organism (*i. e.*, every other individual in society) will be out of that focus, in the margin somewhere. And if consciousness is simply the process of the universe where and when it is tensional, then it is no marvel that no other part of the universe feels *this tension* just as I do. I *am* this tension, this focus of

<sup>1</sup> C. B. Davenport, *Psych. Rev.*, Nov., 1897, p. 673.



adjustment, and, as such, the whole system is represented there ; the focus is the focussing *of* the entire system of the universe. (This is the infinite background of self-activity about which the idealists speak.) Each particular adjustment has but one point of highest tension (my consciousness), but there can be an infinite number of adjustments in the infinite system of the universe.

Now it is only this highest center of stress and strain that is not shared, and that is saying no more than that a thing is itself and not everything else. In a certain sense, it is true that everything is identical with everything else ; but if it were absolutely identical with everything else, there would be just one 'Thing' in the universe ; there would be no 'things.' Identity, so far from being inconsistent with diversity, is just the unity which runs through the diversity of things which make up the universe. To apply this to the question of consciousness, apart from the reservation just made, it simply is not true that another person cannot and does not share in my struggles. In many cases, indeed, where the individual organism seems to be in the focus of the adjustment, the real center of tension is outside. For example, a person is ill. *He* really may be suffering very little ; the focal point may be in the consciousness of the friends. They suffer for him. If the focal point in that situation is there in the consciousness of those friends, it is not in the man who is ill, that is all ! There cannot be two tensions unless there are two adjustments, two situations ; and in that case, of course, there are two consciousnesses. Suppose that my tension did get over into yours somehow, then they would merge into one tension. If I ever did get a direct knowledge of your consciousness, then it would no longer be your consciousness but mine. This problem of the supposed uniqueness of the introspective consciousness is no greater than the problem of the uniqueness of every leaf and blade of grass in nature. Consciousness is not another realm of reality ; it is simply the one world that we know in its process of reconstruction. The individual represents a node or nius of energies.

Under the influence of the individualistic or introspective psychology, we have become so accustomed to regard consciousness as

the private possession of the individual, that we have failed fully to appreciate the very obvious fact that consciousness is essentially social in its nature, that there is such a thing as "inter-subjective intercourse," to use Professor Stout's term.<sup>1</sup> Perhaps its very obviousness has retarded insight into its significance, on the principle of what one writer has called the "illusion of the near." Consciousness is no more confined to the individual than is tension. It is focussed in the individual, but just as the so-called individual organism is simply one part of the greater human organism, so what we call individual consciousness is essentially social in character. It is focussed here and there in what we call individuals, but it is the focussing of the whole system.

The child is not introspective; he may almost be said at first to have no consciousness of his own, as is shown by his extreme suggestibility. So with the hypnotic patient. So with the consciousness of primitive man and of savages. Anthropologists tell us that in early stages of social evolution the individual is still merged in the tribe; his acts are the expression, not of any individual initiative, but of the tribal consciousness.<sup>2</sup>

But the essentially social character of consciousness can be shown even in terms of our modern highly differentiated and individualistic social life, for, after all, we are more social than we are individualistic. Let us take a concrete case. Here is a saintly mother and her profligate son. The wicked acts of the wayward son may not be focal in his own consciousness (focal morally, that is), but they may be keenly felt, with shame and sorrow, by the devoted mother. Often a person is more sensitive to slander directed against the good name of another person than if directed at himself. Persons who have grown into one

<sup>1</sup> Cf. his *Groundwork of Psychology*, Chap. xiv.

<sup>2</sup> It may be that consciousness began in this generic way, that, just as the human individual consciousness emerged by slow degrees out of a sort of group consciousness, so the lower forms of consciousness first represented the tensional stress of some life problem of the species rather than any specific crisis in the life of any so-called individual organism. And, ultimately, on this principle, mental life would have begun in one great cosmic throb of feeling or pulse of cognition. But, of course, all our ordinary categories break down when we attempt to state the origin of anything. The most that we can do is to analyze our experience as we find it nearest home in our human consciousness, and then extend the explanation as far as possible, on the principle of continuity, to the lower organisms.

another's lives in an intimate way frequently become so dependent each upon the other, that neither can long outlive the other. In such cases the psychological center of gravity of each, falls outside of himself, as it were, and within the life of the other.

It is an historical accident, one might say, that my consciousness is so peculiarly mine. It may be a sign of my limitation. Instead of being a mark of my superiority, it may be rather a sign of my unsociality. The real genius is not only a striking individual moulding his age ; he is likewise a representative man, the product of his age. Extreme individuality or uniqueness we treat as a form of insanity. The perfect type of consciousness towards which the race is moving is one in which the individual will become increasingly more dependent, not less dependent, upon the social whole. One need only mention industrial organizations as illustrations of this tendency. Individuality is coming to be conceived, not as uniqueness, unlikeness, isolation, the possession of unsharable consciousness, but as the ability to bring to a focus the greatest range of social influences. Consciousness is the interaction of persons in society. *Con* + sciousness originally meant two-persons-knowing-together. Individuals are nodes, so to speak, in the social progress, pivots upon which (social) experience turns, *loci* into which consciousness converges and whence again it irradiates, finite centers of tension in adaptation whereby and wherein the universe is reconstructed. The psychical individual is the medium or channel in and through which experience is handed on from one member of society to another. Each member of society, from this point of view, is an organ of the social whole for thus transmitting experience. And psychology, from this point of view, "is the attempt to state in detail the machinery of the individual as the instrument and organ through which social action operates."<sup>1</sup>

### III.

From this point of view, it will be instructive to criticize the views of certain writers who have written suggestively on the subject of the psychical and the physical in recent publications.

<sup>1</sup> "Significance of the Problem of Knowledge," *University of Chicago Contributions to Philosophy*, p. 19.

The view outlined above is consistent with certain arguments urged by Mr. Morton Prince<sup>1</sup> and by Professor C. A. Strong<sup>2</sup> concerning the relation between brain and consciousness, though not with the panpsychism which they base upon these arguments. The argument of Mr. Prince is as follows: Your brain state is a part of my experience; it is an object of my perception, not of yours. For you this brain state *is* consciousness; for me it is an object or process of change in what I call the material world, *i. e.*, in the objective world of my perception. "In other words, a mental state and these physical changes which are known in the objective world as neural undulations are one and the same thing, but the former is the actuality, the latter a mode by which it is presented to the consciousness of a second person."<sup>3</sup>

This seems to be a true statement of the relation between the psychical and the physical, except that it is difficult to see why the brain process, when thus experienced from within, should be called "the actuality," while the same brain process when viewed by a second person is only "the symbol of it." The focus of a system is no more real than the margin or context; each is essential to give the other its reality; in truth, each is necessary in order that the other should have any existence at all.

The problem of "how a subjective fact comes to be perceived as an objective fact; or how a feeling comes to be presented to us as a vibration"; *i. e.*, the problem of why the focus of this system appears as a marginal element in some other system, is a problem, to be sure. It is the fundamental problem of why Being is such as it is. But it is no more of a problem here than it is elsewhere. Why what is mental for me is physical for you, is no more of a problem than why the leaf on the tree is different from the blade of grass.

With Dr. Prince's statement that "there is only one process,"<sup>4</sup> and that that process, *as process*, is "psychical," we may fully agree; but this process has also a content, not only when viewed

<sup>1</sup> Summarized in the *Psych. Rev.*, Nov., 1903, pp. 650-658.

<sup>2</sup> In his book entitled *Why the Mind has a Body*.

<sup>3</sup> P. 651.

<sup>4</sup> P. 653.

by another person, but when introspectively (retrospectively) viewed by myself. Thus viewed *as content*, it is physical (it may be social, ethical, economic, psychological, etc.). It is not a different reality when viewed thus as content, any more than the context of a dynamic system is a different system from the focus. Why should we attempt to reduce the context to terms of the focus any more than the reverse? Why, that is, should we seek to reduce the physical to the psychical, as does Dr. Prince?

Dr. Prince's illustration of the kaleidoscope is admirably adapted to show, not the exclusive reality of the "wonderful variegated mosaic" seen within, but the reality equally of the "little pieces of colored glass thrown higgledy-piggledy together" which are seen from without. The one is as true and as real a view as the other. Why should we attempt to reduce what we see from the outside to terms exclusively of what we see on the inside?

Another interesting phase of the argument presented by Dr. Prince is that embodied in the following supposititious case, which is here modified slightly for the sake of simplification. Let us suppose two persons, by means of some X-ray appliance, to be perceiving each other's brain states. Then, according to the theory propounded by both Dr. Prince and Professor Strong, the reality is the consciousness which each has. The brain state which each perceives is simply a symbol of the reality in the consciousness of the other.

But now suppose, by some device, that one of these persons turns his instrument upon his own brain state. He still, on the theory propounded by these writers, would see only brain state. His own brain state, in this case, would likewise be only a symbol. But a symbol of what? A symbol of his own consciousness, of course. But, by hypothesis, this symbol is a part of his own consciousness.<sup>1</sup> The symbol must then be as real as his consciousness, which, according to Dr. Prince, is the only reality. Reality, then, includes both the psychical and the physical, both the consciousness and the brain state. How, then, can

<sup>1</sup> "That which we call the physical brain-process is my consciousness or perception of it." P. 652.

consciousness or the psychical be the only reality, *i. e.*, how can panpsychism be true?

Professor Strong uses the following illustration: Let us suppose that some future physiologist finds means "to isolate the brain and keep it artificially alive, and then, connecting his instruments with the stumps of the cerebral nerves, impart to them impulses so like those they have been accustomed to receive from the eye, the ear, and the skin that the brain's possessor . . . will see, hear, and feel like a normal person, and never know what had happened to him."<sup>1</sup> "We have only to suppose, after the laying-bare of the brain-tissue and the application of the hyper-microscope, an arrangement of mirrors to be brought to bear, in such wise as to reflect the light-rays traversing the microscope into the subject's eyes. This happy mortal would then . . . be simultaneously conscious of a feeling and of the accompanying brain event. This suggests a curious deduction. Suppose the feeling happened to be a perception, and the perception that of the very brain event in question; then mental state and correlated brain-event would apparently for that mind be fused into one."<sup>2</sup>

This "curious deduction," which Professor Strong rejects, would seem rather to be the true one. He rejects it on the ground that the object of perception always follows and is the effect of the consciousness in which it is a perception. In this case, he maintains that the brain state would be subsequent to the mental state, *i. e.*, to the consciousness of the brain state. But, waiving the question of the validity of psychical causality, and waiving the question of how the content could be temporally subsequent to the process of a perception, is not this an indefensible position even on the basis of his own theory of consciousness? He has at considerable length defended the doctrine that "consciousness is correlated, strictly speaking, with a process occupying the entire sensory-motor arc and extending from the sense-organs to the muscles."<sup>3</sup> How, then, in this instance, could one part of the organic circuit, or sensori-motor arc, be

<sup>1</sup> P. 41.

<sup>2</sup> Pp. 339-40.

<sup>3</sup> Pp. 46-47.

subsequent to another, if consciousness is correlated only with the whole circuit? How could my brain state, which, in this supposititious case, is the object of my perception, be subsequent to my consciousness of that brain state, if that consciousness is the correlate, not of any part, but only of the whole circuit, — not only of brain states, but of sense organs and muscles?

Of course, to have a complete perception of this brain state, it would be just as incumbent upon me to *touch* this cerebral tissue with the finger or dissecting needle as to *see* it with the retina and microscope. In this case, the two portions of the organic circuit (brain tissue and finger, let us say) would be immediately adjacent, and the illustration becomes even more suggestive, and the absurdity even more apparent, of supposing that the perceived object (the brain state) could be subsequent in time to the percipient subject.

The psychical and the physical, consciousness and brain state, thus are one, as Professor Strong says, but not in the sense that the brain state reduces to a mode of consciousness, not in the sense of panpsychism. Consciousness and brain state are one reality, but this reality is no more truly expressed in the consciousness than in the brain state, in panpsychism than in panphysicism. There is a difference between consciousness and brain state, but it is not the difference of one being more real than the other. It is the difference between that reality when in a tensional phase and when in a state of relative equilibrium. It is a distinction of function or meaning rather than of structure or existence.

Professor Royce, in his *Outlines of Psychology*, distinguishes between the physical (or 'public') and the psychical (or 'private') kinds of experience. "Physical facts are . . . 'public property,' patent to all properly equipped observers. . . But psychical facts are essentially 'private property,' existent for one alone." "The mental life of each one of us can be directly present, as a series of experienced facts, to one person only."<sup>1</sup> "The fact that other persons cannot directly watch our inner physiological processes, is itself something relatively accidental,

<sup>1</sup> P. 2.

dependent upon the limitations of the sense organs, or upon the defective instrumental devices, of those who watch us. But the fact that our mental states are incapable of observation by anybody but ourselves seems to be not an accidental, but an essential character of these mental states. Were physiologists better endowed with sense organs and with instruments of exact observation, we can, if we choose, conceive them as, by some now unknown device, coming to watch the very molecules of our brains; but we cannot conceive them, in any possible case, as observing from without our pains or our thoughts in the sense in which physical facts are observable. . . . No microscope could conceivably reveal them. To me alone would these states be known. And I should not see them from without; I should simply *find* them, or *be aware* of them. And what it is to find them, or to be aware of them, I alone can tell myself."<sup>1</sup>

In *The World and the Individual*,<sup>2</sup> Professor Royce suggests that the difference between the psychical and the physical is simply a difference in time-span, "that we have no right whatever to speak of really unconscious nature, but only of uncommunicative nature, or of nature whose mental processes go on at such different time-rates from ours that we cannot adjust ourselves to a live appreciation of their inward fluency."<sup>3</sup>

It may be pointed out, in the first place, that these two views of the relation between the psychical and the physical, are scarcely consistent. If the difference is simply one of time-span, then the two would seem to belong to a continuous series of phenomena, their difference being one of degree rather than of kind. The problem would here be as to why just this rather than that time-span is accompanied by the particular kind of consciousness which we know in ourselves. A very important point in the dynamic theory would be the determination of the temporal limits of the tension which is the condition of consciousness.

But, according to the view set forth in the *Outlines*, the difference is one of kind. "Mental life has thus been defined by

<sup>1</sup> Pp. 4-5.

<sup>2</sup> Vol. ii, pp. 211-242.

<sup>3</sup> *Ibid.*, pp. 22-56.



pointing out its contrast with all that is physical.”<sup>1</sup> “How shall psychology progress, if, in our various mental lives, no two observers can ever take note of precisely the same facts?”<sup>2</sup> The answer finally is that “psychology is concerned with what is common to many or to all human minds,”<sup>3</sup> the position taken being the same as that of Professor Baldwin in his *Development and Evolution*, when he says that the data of psychology are psychological, not psychic. But, if this is true, then psychology is on no different basis methodologically from biology or physiology; they are equally objective sciences.

What, then, is the significance of this discussion of the psychical and the physical as ‘private’ and ‘public,’ respectively? The psychical as such is never the datum of psychology. Psychology is “concerned with what is common to many or to all human minds.” But the only thing that is common or public is physical, not psychical. Hence, as a science, psychology no more deals with the psychical than does physics or biology. If by the psychical is meant my own private mental states, as Professor Royce insists at some length, then we are forced to one of two conclusions: either there can be no science of psychology (since there can be no science of the individual, of the particular), or the psychical is not the datum of psychology. But neither he nor we would be willing to accept either of these conclusions in this unqualified form. What is the truth in the matter?

The truth lies in seeing that this distinction between ‘public’ and ‘private’ is a functional, not a fixed one. A psychical fact is no more private than any other fact, except as it is taken as such; it is its being taken as such that makes it psychical. This Professor Royce has himself well illustrated in his critique of the doctrine of conscious elements already mentioned,<sup>4</sup> where he shows that the element or unit with which psychological analysis operates is not a preëxistent conscious state, but is brought into being in the act of analysis; the element *is* only as it is thus constructed. It is a fact only in the sense in which every scientific construct, such as the atom or the electron, is a fact.

<sup>1</sup> P. 5.<sup>3</sup> P. 17.<sup>2</sup> *Ibid.*<sup>4</sup> Pp. 97 f.

'Public' and 'private' are relative or functional terms. There is no experience which is absolutely public or absolutely private. To recur to the illustration of the focus and marginal context, there is nothing which is absolutely focus and the rest context; it is a matter of the interest or purpose of the situation whether the focus be taken as a mathematical point, as a spot, or as a smaller within a larger area. This is more consistent with Professor Royce's statement that the distinction is "only a relative distinction due to the special conditions to which our human knowledge of both these worlds is subject."<sup>1</sup> The implication of this, as well as of much that he says in *The World and the Individual*, is that for a higher intelligence the psychical and the physical would be seen to be one, but that to our finite minds there are two worlds, an internal and an external, a private and a public, a psychical and a physical.

But it is just the contention of the functional view that these two are, under certain conditions, one in *our* experience as truly as in the experience of a transcendent intelligence. Psychical and physical are a unity in every act; the duality is the duality of consciousness, of thought. Of course, the unity of action is not a bare unity; it is a unity of the differences represented in consciousness. So, on the other hand, the duality or diversity of consciousness is not a bare diversity; it is a diversity, a duality, set up within the unity of action, and is thus itself a phase of activity.

Like Dr. Prince and Professor Strong, Professor Royce uses the illustration of the brain states. "Were my body as transparent as crystal, or could all my internal physical functions be viewed and studied as easily as one now observes a few small particles eddying in a glass of nearly clear water, my mental states could not even then be seen floating in my brain."<sup>2</sup> But let us suppose, as before, that I turned the instrument upon my own brain, and upon the very brain state concerned in my present state of consciousness. Here it would appear that this brain state is at once 'public' and 'private,' since it is at once a presentation in my consciousness and at the same time a neural state observable

<sup>1</sup> P. 2, note.

<sup>2</sup> P. 4.

by another. What, then, here becomes of the distinction between the psychical and the physical? If it be objected that the brain state as presented in my consciousness is not the consciousness of the brain state, that the content of perception is not the same as the process of perception itself, it may well be asked how a perception of a brain state would, in that case, differ from any other perception. It is just the content which makes one state of consciousness different from another state of consciousness.

The analysis of this supposititious case suggests two important conclusions: first, that consciousness is to be correlated with nothing less than a complete organic circuit, involving the whole context of external nature as truly as the internal mechanism of the nervous system; second, that the condition of consciousness is a certain tension within this system or organic circuit, and that where this is absent (as in the supposititious case, where the object of the perception,—the brain state,—is itself the organic circuit) the psychical and the physical merge, consciousness vanishes.

That the time-span is an important condition of consciousness is not only probable but demonstrable. Experimental psychology has for one of the chief objects of its investigation the measurement of the temporal limits of the organic tension which finds its expression in consciousness.

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## WHAT IS ÆSTHETICS?

AN accomplished mathematician, who is certainly free from those prejudices which his science might be expected to foster, once said that all problems are divided into two classes, soluble questions, which are trivial, and important questions, which are insoluble. This epigram, if we chose for the moment to take it seriously, might help us to deal in a quick and trenchant fashion with the topic before us. Our problem would indeed be soluble and trivial, if we wished merely to fix the relation of an æsthetics arbitrarily defined to other sciences of our own delimitation. It would be all a question of dragooning reality into a fresh verbal uniform. We should have on our hands, if we were successful, a regiment of ideal and non-existent sciences, to which we should be applying titles more or less preëmpted by actual human studies ; but in its flawless articulation and symmetry our classification would absolve itself from any subservience to usage, and would ignore the historic grouping and genealogy of existing pursuits.

Thus, for instance, in the recent *Estetica*, by Benedetto Croce, we learn that æsthetics is purely and simply the science of expression ; expression being itself so defined as to be identical with every form of apperception, intuition, or imaginative synthesis. This imagined æsthetics includes the theory of speech and of all attentive perception, while it has nothing in particular to do with art or with beauty or with any kind of preference. Such system-making may be a most learned game, but it contributes nothing to knowledge. The inventor of Volapük might exhibit considerable acquaintance with current languages, and much acumen in comparing and criticizing their grammar, but his own grammar would not on that account describe any living speech. So the author of some new and ideal articulation of the sciences merely tells us how knowledge might have fallen together, if it had prophetically conformed to a scheme now suggesting itself to his verbal fancy ; much as if a man fond by nature of archi-

tectural magnificence, but living by chance in a house built of mud and rubble, should plaster it on the outside, and, by the aid of a little paint, should divide it into huge blocks conjoined with masterly precision and apparently fit to outlast the ages. When this brilliant effect was achieved, and the speculative eye had gloated sufficiently on its masterpiece, the truly important question would still remain; namely, what the structure of that house really was and how long it could be expected to retain traces of the unmeaning checkerwork with which its owner's caprice had overlaid it.

Perhaps we may pursue our subject to better advantage if we revert to our mathematical friend, and try to turn his satirical dictum into something like a sober truth. Some questions, let us say, are important and soluble, because the subject-matter can control the answer we give to them; others are insoluble and merely vexatious, because the terms they are stated in already traduce and dislocate the constitution of things. Now the word 'æsthetics' is nothing but a loose term lately applied in academic circles to everything that has to do with works of art or with the sense of beauty. The man who studies Venetian painting is æsthetically employed; so is he who experiments in a laboratory about the most pleasing division of a strip of white paper. The latter person is undoubtedly a psychologist; the former is nothing but a miserable amateur, or at best a historian of art. Æsthetic too would be any speculation about the dialectical relation of the beautiful to the rational or to the absolutely good; so that a theologian, excogitating the emanation of the Holy Ghost from the Son and from the Father, might be an æsthetician into the bargain, if only the Holy Ghost turned out to mean the fulness of life realized in beauty, when deep emotion suffuses luminous and complex ideas.

The truth is that the group of activities we can call æsthetic is a motley one, created by certain historic and literary accidents. Wherever consciousness becomes at all imaginative and finds a flattering unction in its *phantasmagoria*, or whenever a work, for whatever purpose constructed, happens to have notable intrinsic values for perception, we utter the word 'æsthetic'; but these occa-

sions are miscellaneous, and there is no single agency in nature, no specific organ in sense, and no separable task in spirit, to which the æsthetic quality can be attributed. Æsthetic experience is so broad and so incidental, it is spread so thin over all life, that like life itself it opens out for reflection into divergent vistas. The most important natural division in the field of reflection is that between the vista of things found and the vista of things only conceived or desired. These are two opposite and centrifugal directions in which reasoned knowledge may expand; both diverge from the common root furnished by practical knowledge, memory, and history; one, proceeding by observation, yields natural science, and the other yields ideal science, which proceeds by dialectic. Yet even these two regions, the most disparate possible in speculation, covered respectively by pre-Socratic and by Socratic philosophy, are themselves far from separable, since before external facts can be studied they have to be arrested by attention and translated into terms having a fixed intent, so that relations and propositions may be asserted about them; while these terms in discourse, these goals of intent or attention, must in turn be borne along in the flux of existence, and must interpret its incidental formations.

Now, much that is æsthetic is factual, for instance the phenomena of art and taste; and all this is an object for natural history and natural philosophy; but much also is ideal, like the effort and intent of poetic composition, or the interpretation of music, all of which is concerned only with fulfilling intent and establishing values. That psychology may occasionally deal with æsthetic questions is undeniable. No matter how clearly objects may originally stand out in their own proper and natural medium, in retrospect they may be made to retreat into the experience which discovered them. Now, to reduce everything to the experience which discloses it is doubtless the mission of psychology,—a feat on which current idealism is founded; so that the subject-matter of æsthetics, however various in itself, may be swallowed up in the psychological vortex, together with everything else that exists. But mathematics or history or judgments of taste can fall within the psychological field only adventitiously

and for a third person. An eventual subsumption of the whole universe under psychological categories would still leave every human pursuit standing and every field of experience or faith distinct in its native and persisting hypostasis. Intelligence is centrifugal. Every part of rational life, in spite of all afterthoughts and criticisms, remains in the presence of its own ideal, conscious of the objects it itself envisages, rather than of the process imputed to it by another. *Æsthetic* experience will therefore continue to elude and overflow psychology in a hundred ways, although in its own way psychology might eventually survey and represent all *æsthetic* experience.

If psychology must sometimes consider *æsthetic* facts, so must moral philosophy sometimes consider *æsthetic* values. As mathematical dialectic, starting with simple intuitions, develops their import, so moral dialectic, starting with an animal will, develops its ideals. Now a part of man's ideal, an ingredient in his ultimate happiness, is to find satisfaction for his eyes, for his imagination, for his hand or voice aching to embody latent tendencies in explicit forms. Perfect success in this vital, *æsthetic* undertaking is possible, however, only when artistic impulse is quite healthy and representative, that is, when it is favorable to all other interests and is in turn supported by them all. If this harmony fails, the *æsthetic* activity collapses inwardly by inanition,—since every other impulse is fighting against it,—while for the same reason its external products are rendered trivial, meretricious, and mean. They will still remain symptomatic, as excrements are, but they will cease to be works of rational art, because they will have no further vital function, no human use. It will become impossible for a mind with the least scope to relish them, or to find them even initially beautiful. *Æsthetic* good is accordingly no separable value; it is not realizable by itself in a set of objects not otherwise interesting. Anything which is to entertain the imagination must first have exercised the senses; it must first have stimulated some animal reaction, engaged attention, and intertwined itself in the vital process; and later this *æsthetic* good, with animal and sensuous values imbedded in it and making its very substance, must be swallowed

up in a rational life ; for reason will immediately feel itself called upon to synthesize those imaginative activities with whatever else is valuable. As the underlying sensuous good must be necessarily merged in the imaginative (their product being what we call æsthetic charm), so in a cultivated mind ulterior rational interests, never being out of sight, will merge in the same total and immediate appreciation. It will be as impossible wholly to welcome what is cruel or silly, what is groundless, mindless, and purely æsthetical, as wholly to welcome what gives physical pain. Reason suffers us to approve with no part of our nature what is offensive to any other part ; and even mathematical cogency, for instance, becomes trivial, in so far as mathematical being is irrelevant to human good. The whole of wisdom must color a judgment which is to be truly imaginative and is to express adequately an enlightened and quick sensibility.

The question whether æsthetics is a part of psychology or a philosophic discipline apart is therefore an insoluble question, because æsthetics is neither. The terms of the problem do violence to the structure of things. The lines of cleavage in human history and art do not isolate any such block of experience as æsthetics is supposed to describe. The realm of the beautiful is no scientific enclosure ; like religion it is a field of sublimated experience which various sciences may partly traverse and which is wholly covered by none. Nor can we say that, because to analyze the sense of beauty is a psychological task, this analysis constitutes a special science. For then astronomy too would have a psychology of its own, and even its special æsthetics, and a fresh science would spring into being whenever a new object offered itself to any observer.

What exists in the ideal region in lieu of an æsthetic science is the art and function of criticism. This is a reasoned appreciation of human works by a mind not wholly ignorant of their subject or occasion, their school, and their process of manufacture. Good criticism leans on a great variety of considerations, more numerous in proportion to the critic's competence and maturity. Nothing relevant to the object's efficacy should be ignored, and an intelligent critic must look impartially to beauty,



propriety, difficulty, originality, truth, and moral significance in the work he judges. In other words, as each thing, by its existence and influence, radiates effects over human life, it acquires various functions and values, sometimes cumulative, sometimes alternative. These values it is the moral philosopher's business to perceive and to combine as best he can in a harmonious ideal, to be the goal of human effort and a standard for the relative estimation of things. Under the authority of such a standard arts and their products fall of necessity, together with everything else that heaven or earth may contain. Towards the rational framing of this standard must go, together with every other interest and delight, the interest and delight which men find in the beautiful, either to watch it or to conceive and to produce it. *Æsthetic* sensibility and artistic impulse are two gifts distinguishable from each other and from other human gifts; the pleasures that accompany them may of course be separated artificially from the massive pleasures and fluid energies of life. But to pride oneself on holding a single interest free from all others, and on being lost in that specific sensation to the exclusion of all its affinities and effects, would be to pride oneself on being a voluntary fool. Isolated, local sensibility, helplessness before each successive stimulus, is precisely what foolishness consists in. To attempt, then, to abstract a so-called *æsthetic* interest from all other interests, and a so-called work of art from whatever work ministers, in one way or another, to all human good, is to make the *æsthetic* sphere contemptible. There has never been any art worthy of notice without a practical basis and occasion, or without some intellectual or religious function. To divorce in a schematic fashion one phase of rational activity from the rest is to render each part and the whole again irrational; such a course would lead in the arts, if it led to anything, to works with no subject or meaning or moral glow. It would lead in other fields to a mathematics without application in nature, to a morality without roots in life, and to other fantastic abstractions wholly irrelevant to one another and useless for judging the world.

Nor would such an insulation of the *æsthetic* ideal secure any permanent division of functions, nor even attain an ultimate tech-

nical analysis. For after the alleged æsthetic sphere had been abstracted, at the cost of making it a region of pure idiocy, it would turn out that an æsthetic element had remained imbedded in men's other thoughts and actions. Their steam-engines, their games, their prose, and their religion would prove incorrigibly, inherently, beautiful or ugly. So that side by side with pure æstheticism, — something so dubious and inhuman, — we should have to admit the undeniable beauties of the non-æsthetic, of everything that was fit, lucid, beneficent, or profound. For what is practically helpful soon acquires a gracious presence; the eye learns to trace its form, to piece out its characteristics with a latent consciousness of their function, and, if possible, to remodel the object itself so as to fit it better to the abstract requirements of vision, that so excellent a thing may become altogether congenial. Æsthetic satisfaction thus comes to perfect all other values; they would remain imperfect if beauty did not supervene upon them, but beauty would be absolutely impossible if they did not underlie it. For perception, while in itself a process, is not perception if it means nothing or has no ulterior function; and so the pleasures of perception are not beauties, if they are attached to nothing substantial and rational, to nothing with a right of citizenship in the natural or in the moral world. But happily the merit of immediate pleasantness tends to diffuse itself over what otherwise is good, and to become, for refined minds, a symbol of total excellence. And simultaneously, knowledge of what things are, of what skill means, of what man has endured and desired, reënters like a flood that no man's land of mere æstheticism; and what we were asked to call beautiful out of pure affectation and pedantry, now becomes beautiful indeed.

In moral philosophy, then, there is as little room for a special discipline called 'æsthetics' as there is among the natural sciences. Just as we may consider, among other natural facts, the pleasures incident to imagination and art, as we may describe their occasions and detail their varieties, so in moral philosophy we may train ourselves to articulate the judgments vaguely called æsthetic, to enlarge and clarify them, to estimate their weight, catch their varying message, and find their congruity or

incongruity with other interests. This will be an exercise of moral judgment, of idealizing reason ; and its very function of attributing worth reflectively and with comprehensive justice, will forbid its arrest at the face value of dumb sensation, or of abstract skill, or of automatic self-expression ; whatever distinguishable interests may be covered by these terms will be only ingredients in the total appreciation our criticism is to reach. The critic's function is precisely to feel and to confront all values, bringing them into relation, and if possible into harmony.

Accordingly, the question whether *æsthetics* is a part of psychology or a separate discipline is, I repeat, an insoluble question, because it creates a dilemma which does not exist in the facts. A part of psychology deals with *æsthetic* matters, but cannot exhaust them ; parts of other sciences also deal with the same. A single and complete *æsthetic* science, natural or ideal, is an idol of the cave and a scholastic chimera. As art has hardly prospered where men were barbarous or unintelligent, or where wealth and freedom did not exist, so the theory of *æsthetic* sensibility cannot advance except by an advance in history and psychology ; while to produce a just and fruitful appreciation of beauty it is first requisite to ennoble life, to purify the mind with a high education, with much discipline of thought and desire. Creative genius would otherwise find no materials fit to interpret ; nor could art otherwise divine what direction its idealizations should take, so as to make them, what true beauties are, so many premonitions of benefit or so many echoes of happiness.

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## DISCUSSION.

### EVOLUTIONARY METHOD IN ETHICAL RESEARCH.

I WISH to recall the reader's attention to the two essays on Evolutionary Method and Morality,<sup>1</sup> published by Professor John Dewey in this REVIEW, in March and July, 1902. The object of the first paper is to show that scientific ethics is possible only by that method. Two distinct propositions are thus involved: first, that the method in question is applicable to the treatment of ethical problems; and, secondly, that apart from this method no scientific ethics is possible. To the establishment of the first proposition, the whole paper is really devoted. For the second, no evidence is anywhere offered,—except, indeed, a direct appeal to the scientific experience of the reader. Yet it is this second proposition that gives the essay its sub-title.

Professor Dewey prefaces the discussion with a consideration of the claims of the experimental method to rank as essentially genetic. The essence of the experimental method is said to be “control of the analysis or interpretation of any phenomenon by bringing to light the exact conditions, and the only conditions, which are involved in its coming into being.” This fact, it is said, is hardly warrant for holding it to be in a true sense historical or evolutionary; in the first place, because the historical series is unique both in itself and in its context, while the terms with which experiment deals occur and recur without essential change in the dislocation; and, in the second place, because the main interest in experimental science is not in the individual case but in the more general results that at once emerge.<sup>2</sup> But if not strictly historical, the experimental method is yet truly genetic; and, indeed, the distinction is due to a mere abstraction for our own ends. The serial order, with which experiment deals, is perfectly individual; but, since our ends are general, we can have substitution without loss.

Is it true that the experimental method aims at bringing to light the sole and sufficient conditions of the genesis of a phenomenon? *Prima facie* the very opposite is true. The course of an experiment is the natural sequence of cause and effect. It is the causes that are con-

<sup>1</sup> “The Evolutionary Method as Applied to Morality. I, Its Scientific Necessity; II, Its Significance for Conduct.”

<sup>2</sup> For that matter, history itself, when it is scientific, and in so far as it is scientific, finds its main interests in the universal aspects of its data.

sciously predetermined, not the effects. The immediate problem, at least, is not, "What was the cause?" but, "What will be the result?" A vast amount of experimentation that is performed on each newly discovered chemical element,—as the present investigations into the properties of radium,—is of this relatively aimless character. In so far, however, as an experiment has a distinct practical purpose, Professor Dewey's formulation holds true,—as it holds true of all practical research by any method whatsoever. What we care to know is the means to our end. Thus the definitely practical experiment takes the form: "Will these means (suggested by analogy, observed coincidence, or other imperfect induction) lead to the desired end?" But the actual experiment is always directly a synthesis, and only indirectly ever an analysis.

What, then, of Prof. Dewey's illustration, the problem of the nature of water? "Water simply as a given fact resists indefinitely and obstinately any direct mode of approach. No amount of observation of it, as given, yields analytic comprehension. Observation but complicates the problem by revealing unsuspected qualities that require additional explanation" (p. 109). On a first reading, these sentences seem incomprehensible. For the writer has just said that "by nature, in science, we mean a knowledge for purposes of intellectual and practical control." Surely a great mass of knowledge of water, enabling us to turn it to a vast number of practical ends, has been obtained by direct observation and scrutiny. Why, then, with the definition just given of the nature of a substance, should such practical knowledge be accounted a mere complication of the problem of its nature? And what is "analytic comprehension"?

The next few sentences furnish a seeming explanation of Professor Dewey's meaning. "What experimentation does is to let us see into water in the process of making. Through generating water we single out the precise and sole conditions which have to be fulfilled that water may present itself as an experienced fact." Are we, then, to understand by the nature of water its chemical constitution? Is that rather to be accounted its nature than the observed facts, that it evaporates and freezes and quenches thirst? Or is "analytic comprehension" to mean knowledge of chemical analysis? Are the physical properties of water actually explained by its chemical analysis? Surely something has been said here that was not clearly intended. But, further, does the chemical composition of a substance constitute the condition of its genesis? Decidedly not. Despite all that the experiment of generating water proves, not a particle of water in the

universe,—other than that which is formed in the experiment itself,—may have come into being by the uniting of oxygen and hydrogen. The experiment shows us the analysis of water and a simple mode of compounding it; not the actual mode of production,—whether we call it ‘genetic’ or ‘historical,’—of all existing water. On the whole, we must, I think, conclude that the experimental method, while perfectly applicable to problems of genesis, is not distinctly a genetic method.

Proceeding to the subject of ethical research, Professor Dewey announces his thesis: “I shall endeavor to point out that there is more than an analogy, there is an exact identity, between what the experimental method does for our physical knowledge, and what the historical method in a narrower sense may do for the spiritual region: the region of conscious values” (p. 113). In this connection he gives what appears to me to be a true and luminous account of the application of the evolutionary method to ethics. But there occur occasional statements, leading to the above thesis, which seem somewhat exaggerated. “The early periods present us in their relative crudeness and simplicity with a substitute for the artificial operation of an experiment.” Surely this is true only with most important reservations. In physical research we exclude complications as unessential; we are justified in abstraction. But in the organism, and especially in society, the complexity is all-important. Just what we cannot tolerate in ethics is over-simplification; and this has hitherto been a chief crime of evolutionary moralists. “Following the phenomenon into the complicated and refined form which it assumes later, is a substitute for the synthesis of the experiment.” But the synthesis of the experiment is either only a mere check upon the analysis, or it is a novel combination, motivated only by analogies or incomplete inductions. But in evolutionary research “following the phenomenon” is the main thing,—the observation of influences from countless sources, not a mere shifting of the elements discovered in the relatively simple analysis. From the point of view of method, if not of formal logic, it is one thing to note the results of an intended and controlled combination of elements, and a radically different thing to trace the course of concrete history,—the conflicting results of infinitely complex and uncontrolled forces, only gradually coming into view in the advance of the investigation.

However, when all reservations are made, we must finally admit both that the historical method is perfectly applicable to ethical inquiry and that the simplicity of early social forms permits of rela-

tively facile analysis. With Professor Dewey's discussion of the popular fallacy, that genetic explanation means the resolving of the later into the earlier, we shall also have no quarrel. In this connection, however, I note one possible misstatement. It is said: "The later fact in its experienced *quality* is unique, irresolvable, and underived." It is to the word 'underived' that I would take exception, provided it implies that there is not continuity of quality as well as of quantity or degree. For, as a matter of fact, every quantity is really as unique as every quality. This is untrue only of abstract extension; an inch has no geometrical properties different from those of a millimeter. But every concrete extension, as well as every number or intensity, is thoroughly unique,—has, in short, a distinct quality. If, then, quality be not continuous in change, neither is quantity. Again, in criticism of President Schurman's volume, *The Ethical Import of Darwinism*, Professor Dewey makes another apparent misstatement, which, however, is surely unintentional. He points out that continuity of process must not be confused with identity of content, and that knowledge of differences is not less important than that of the generic identity of the process. He then says: "Supposing (which does not seem to be the case) that an identical belief regarding the duty of parental care, or of conjugal fidelity, could be discovered in human societies at all times and places. This would throw no light whatsoever upon the scientific significance of the phenomenon." Of course, this is literally untrue. The supposed fact would indicate that the development of the belief was simultaneous with, or prior to, the differentiation of the human species, and must, therefore, have a relatively universal and permanent ground in human character.

It remains to consider the few passages bearing upon the second of the two main propositions advanced in the essay, that no other method than the historical method is available for scientific ethical research. "We cannot apply artificial isolation and artificial combination [to an ethical phenomenon]. . . . Only through history can we unravel it. . . . History offers to us the only available substitute for the isolation and for the cumulative recombination of experiment" (p. 113). But what of the relative isolations and recombinations that repeatedly occur in our common life, and are ever open to watchful and intelligent observation? Not all of modern life is equally complex and defiant of analysis. "That which is presented to us in the later terms of the series in too complicated and confused a form to be unraveled, shows itself in a relatively simple and transparent mode in the earlier members" (p. 114). But the later terms have the not

slight advantage of being recent or even present terms, open to our observation in all their complexity,— complete as they are, and not schematized as they may have been. “The significance of conscious or spiritual values cannot be made out by direct inspection, nor yet by physical dissection and recomposition. They are, therefore, outside the scope of science except so far as amenable to historic method” (p. 123). Note the disjunction: “direct inspection” and “physical dissection and recomposition” are the only methods of non-historical science. Surely this needs proof; or, if by definition “direct inspection” is made to cover its side of the dichotomy, we certainly need evidence of its helplessness in the field of ethics. From one point of view, the proposition is almost self-contradictory. For if direct inspection be intrinsically incompetent, then the historical method cannot even be attempted. A beginning by direct inspection must be made somewhere in the historical series; if not in the complex present, then in the relatively simple (but dimly seen) past. The direct method is then not intrinsically incompetent, but may only be inadequate to the relative complexity of contemporary morals. But if even this be true, it is none the less a surprising proposition, in view of the great mass of ethical theory which it wholly discredits, and extraordinarily good evidence must be forthcoming, if the world is to be convinced of it.

And yet, in one sense, the proposition is palpably true,— in the very modest and temperate sense, that ethical research cannot afford to neglect any promising instrument of analysis; that no one method has elicited, or will probably succeed in eliciting, the whole truth; and that each new point of view means a new perspective which brings into clear vision something that was before obscured or concealed. So we should say of the introspective and evolutionary methods of psychology, that introspection, whether favored or not by experimental conditions, has revealed much, indeed, and will doubtless reveal much more; but that genetic psychology, too, has its distinctive powers and honors; that, in particular, certain problems lend themselves more readily to introspective, and certain others to evolutionary treatment.

After all, evolutionary ethics is not so much a science as the hope of a science. We must be on our guard against too extreme statements either of its accomplishments or of its potentialities. “Just as experiment transforms a brute physical fact into a relatively luminous series of changes, so evolutionary method applied to a moral fact does not leave us either with a mere animal instinct on the one side, or with a spiritual categorical imperative on the other. It reveals to us a single



continuing process in which both animal instinct and the sense of duty have their place" (p. 119). True, we know that such a process has throughout vast ages been going on; and we catch glimpses of it at various points in its development. But the record is fearfully imperfect, except of the very latest stages. In particular, of the transition from brute to savage, we have very little precise knowledge. Perhaps this is all that Professor Dewey means by the revelation of a "single continuous process"; but, if so, we must yet remember that, for purposes of scientific analysis, the fact that *A* has developed from *B* does not suffice for much; we must have definite knowledge of closely consecutive stages of the development. Such knowledge of a vast period of the history of moral origins we do not possess, and seemingly can never possess,—eke out our ignorance, as we may, by comparative and child psychology.

In his second paper, Professor Dewey discusses the relation of the method of evolution to the theories of intuitionism and empiricism. There would seem, at the outset, to be no necessary incompatibility of the method with either theory. In the first place, as to intuitions, the question whether we possess any mental states that deserve such a name is one to be settled by immediate reference to present facts; the theory of evolution has nothing directly to do with the matter.<sup>1</sup> And, in the second place, the philosophical doctrine of empiricism, whether false or true, operates on a level of thought where it could hardly come into conflict with a biological or sociological generalization. An associational interpretation of the evolution of mental phenomena is no more impossible than an atomistic interpretation of the evolution of a world-system.

But Professor Dewey attacks the situation on a different side. It is the epistemological value of supposed intuitions that he questions. "The mere existence of a belief, even admitting that as a belief it cannot in any way be got rid of, determines absolutely nothing regarding the objectivity of its own content. The worth of the intuitions depends upon genetic considerations" (p. 357). But upon what, we may ask, has rested the validity of ordinary sense-perception? Of course, the survival value is evident; but did man have to wait for the theory of psychophysical evolution to give him a warrant for an abiding faith in the evidence of his senses? It is their present functional value apart from all questions of origin, that is the direct and sufficient evidence of their trustworthiness. What is definitely known to-day as

<sup>1</sup> Except, perhaps, negatively; as when the intuition is defined as *not* having arisen by induction from experience.

to the origin and development of the reasoning process? Yet the validity of the process does not wait upon genetic psychology for its justification. And such must be the case with moral intuitions, if any such exist. Their experienced inner conformity, one with another, throughout the moral life would suffice. In short, there is no disjunction between mere existence and genetic considerations as exhausting the evidences of validity.

The explanation of Professor Dewey's attitude in the matter is not far to seek. For him, present functional value is distinctly and decidedly a genetic consideration; and so the disjunction which we have denied he finds no difficulty in maintaining. No doubt there is a certain force in his contention. The genetic account of function, and the functional account of evolution, have become indispensable to complete knowledge of either function or history. Moreover, a function is itself a process, a change, a development; so that Professor Dewey feels himself amply justified in merging the two conceptions, — in consolidating functional theory with genetic theory as, properly speaking, a single theory. In this spirit, he concludes the paragraph from which I have last quoted (p. 358). Nevertheless the position does not appear to me to be perfectly correct. Evolutionists are apt to arrogate to themselves the view of present life as a process; whereas scarcely anyone has ever looked at it in any other way. If, when Heraclitus said that all things flow, he announced himself an evolutionist, then Professor Dewey's contention is altogether proper. But the essential point, I take it, especially in current controversy, is that the mode of flowing has itself flowed, — that the process itself not only is history but has a history. The grinding of corn, for example, is a process, a change, an evolution, if you please; the grain enters into the mill, and the flour comes out. But the process of changing grain into flour has itself evolved during a period of thousands of years. It is this second evolution, — not the evolution *in* the process, of which no sane man has ever been ignorant, but the evolution *of* the process, — that is the relatively new conception, the application of which to the problems of morality constitutes evolutionary ethics.

Moreover, where questions of validity are concerned, the study of present results has at least two decided methodological advantages over the study of origins. First, we must take account of that "heterogeneity of ends" with which Wundt has made us familiar. A knowledge of the sources of things may be extremely deceptive, if it fails, — as in so many fields it must fail, — of completeness. The second advantage we have already noticed, — the simple fact, that in the process as it now

operates we have a well-nigh infinitely richer field for observation than in all the records of the past. When account is taken of these several considerations, we may not readily agree with Professor Dewey that aside from the method of evolution the validity of a supposed intuition could in no wise be established.

One other of Professor Dewey's criticisms upon intuitionism we may note, though it has little direct bearing upon this discussion. If an intuition fails once, he says, it fails always. "Either everything that appears to the individual as final and authoritative is such, or else such appearance lacks competency in any case" (p. 360). That this is not strictly true, the analogy of sense-perception may again convince us. We may have been occasionally subject to hallucinations of sight and hearing; yet the ordered consistency of our present waking existence leaves us no doubt as to the truth of our present perceptions. And so, though a moral intuition, in which we had had entire confidence, should prove utterly mistaken, that need not rob our life of all further moral guidance. Of course, this is not to say that an intuitionism is not conceivable, against which Professor Dewey's criticism holds. But surely intuitionism as a great historical school of thought has more to say for itself than he allows.

"Empiricism," says Professor Dewey, "is no more historic in character than intuitionism. . . . The genetic method determines the worth or significance of the belief by considering the place that it occupied in a developing series; the empirical method by referring it to its components" (p. 364). Here, again, I fail to discover a true disjunction. Empiricism may or may not be genetic in method and spirit. The associations of psychical elements are temporary; they have a history and a function. For the empiricist, as for another man, the idea is a response to a situation and issues in a reconstruction of the situation. So far from dissolving the bonds of the temporal connection of ideas, he distinguishes himself by the elaboration of a distinct as well as comprehensive theory as to the intimate nature and mechanism of that bond. Not content with the general doctrine, "that the idea arises as a response, and that the test of its validity is to be found in its later career as manifested with reference to the needs of the situation that evoked it" (p. 363), — not so easily content, I say, the empiricist has his explicit theory, be it true or false, as to the precise manner in which ideas arise in response to situations, and of the precise mode of their reference to temporary exigencies.

Again, it appears unwarrantable to assert an antithesis between the empirical and genetic methods on the ground that for the one method

the genesis of the idea is a process of repetition or cumulation (allowing these terms to stand for the whole associative mechanism), and that for the other method the genesis is a process of adjustment (p. 365). The association of ideas, as empiricism explains it, is most assuredly an adjustment of the psychophysical organism to its environment, an adjustment whose survival value is not hard to surmise.

Nor does empiricism lack for a complete account of historical change. It is not true, that "by its logic change of quality in passage from generating elements to final product must be explained away" (p. 366). The unlimited combination even of a finite number of distinguishable elements is a sufficient ground of qualitative change. It is the fundamental assumption of empiricism that each new arrangement has qualitative novelty as an arrangement, even though the elements be old. Moreover, the empiricist need not deny the possibility of the development of new elements, by gradual differentiation from the old. He may believe, for example, that auditory sensation is of more recent origin than visual sensation. But even without such differentiation, continuous change is sufficiently provided for in the premise, that the intensity of each element may vary from the liminal to the maximal value.

A further criticism of the adequacy of the empirical method to genetic problems may appear to be more truly deserved, — that empiricism fails to recognize the function of the negative elements in experience as stimuli to the building up of a new and more comprehensive experience (pp. 367 f.). A persistent biological habit is conceived as issuing in a conscious custom, and the latter (by merely cumulative effect) in a moral practice. But by no such mere repetition can consciousness or moral valuation have arisen; the original act would simply have been hardened as it was. It is only through *failure* of the instinct or habit to effect an adequate adjustment, that a different mode of adaptation could become necessary.

Let us admit the general historical truth of this criticism. Empiricism is a far older method than that with which the theory of evolution has provided us; and even the latter-day masters of the empirical school may well have shown a fondness for the tools of thought traditional among them, and a misappreciation of instruments more recently devised. But the defect, if indeed it exist, does not seem to be fundamental. In Professor Dewey's criticism, one point appears to me ambiguous, — whether by 'failure' he means necessarily *felt* failure, or perhaps simply *actual* failure, of adjustment. But, in the latter case, it is surely open to the empiricist to assume with Professor

Dewey that the failure of an existing mode of response gives survival value to a supplementary variation. And as for the feelings arising from failure, these are surely a part of the empiricist's stock in trade, however he may in the past have undervalued them. The "negative elements in experience" are elements which empiricism has never failed to include in its survey. The effect of dissatisfaction upon the association of ideas is a problem by no means foreign to the spirit of empirical speculation.

THEODORE DE LAGUNA.

#### REPLY TO PROFESSOR BAKEWELL.

My object in replying to Professor Bakewell's review of my book *Why the Mind has a Body* in the last number of this journal is not to complain of misrepresentation or ill-treatment, for his article seems to me on the whole intelligent and fair; but to call attention to certain points where he has not completely understood me, and where a complete understanding would involve some modification of the judgments he passes. These points are my attitude toward the theory of a non-phenomenal subject, my view that transcendent knowledge is non-rational, and my account of the panpsychist solution of the problem of the relation of mind and body.

1. "The theory of a non-phenomenal subject," says Professor Bakewell, "is disposed of cavalierly in a couple of pages, mainly on the ground . . . that that theory involves 'extruding the ego from experience,' which is precisely what that theory affirms to be impossible." This would be telling criticism were it not for the fact that by a 'non-phenomenal subject' Professor Bakewell and I do not mean the same thing. He means a subject which is experienced but not known; I mean a subject which is not even experienced, because it is conceived as being 'that which' experiences. The word 'phenomena' is, in fact, currently used in these two senses, — by Professor Ward, for instance, for objects of thought as distinguished from feelings and will, and by Mr. Bradley (*cf.* the title of his article "A Defence of Phenomenalism in Psychology," in *Mind* for 1900) for whatever is experienced, a view which Professor Ward characterizes as 'presentationism.' Now, against the theory that the subject is not and cannot be a 'phenomenon' in the sense of an object of thought, I have not a word to say; that is rather my own view. But those who begin by making the subject non-phenomenal in this sense often end by making it non-empirical. Failing to distinguish sharply between experience and thought, they imagine that not merely thought but experience

requires a subject ; they think that anything of which we can be aware, not merely in the sense of knowing, but in the sense of immediate feeling, requires a subject to be aware of it ; thus they make the subject a thing of which we cannot be in any sense aware, — in a word, they “ extrude it from experience.” And, by doing so, they come in conflict with the principle, which I take to be absolutely fundamental, that experience is our one source of knowledge about the mind.

Perhaps Professor Bakewell thinks I err in supposing that there are philosophers who hold this view. If I do, I err in good company, for Mr. Bradley, in the article above referred to, says: “ We have (according to this view) on one side the experienced, and that, if for the moment we disregard pleasure and pain, consists in the perceived, in objects given to and before the self. This forms the whole content of the experienced. The experienced in short is but one aspect of experience, and the other aspect consists in the activity of the self. This activity is itself not perceived and does not itself enter into the experienced content, and is not and cannot be itself made into an object. But beside these two sides of experience, one experienced and the other not experienced, we have also feeling in the sense of pleasure and pain. . . . *The aspect of self has by this view been turned out of the experienced*” (pp. 38, 39 — italics mine).

Professor Bakewell’s view seems to be that the subject is experienced, but not completely experienced. I admit that this is true in a sense. But it seems to me that the distinction between the subject so far as experienced and the subject as lying beyond experience is the distinction between the actual and the potential self (I have given an account of the latter in my suggestion of a “ substitute for the soul,” pp. 201–203) ; and I do not see how the potential self can form any part of the momentary subject. In my view it becomes the subject only so far as it becomes experienced.

Professor Bakewell, as I say, seems to admit that the subject is partly at least experienced. But why then does he speak of the subject as “ intuiting ” or “ witnessing ” states of consciousness, — expressions which strongly suggest the non-empirical form of theory referred to above ? One is tempted to doubt whether he has quite made up his mind between the view that the subject is experienced and the view that it is ‘ that which ’ experiences. Why, in particular, does he employ these expressions in describing my empirical view, — saying that, according to me, “ the present ego is the state of consciousness at present immediately intuited ” (as though by some other ego), while “ another ego witnessed the past state ” (instead of ‘ was it ’) ?

These sentences do not show him to be very familiar with, or at least very skilful in stating, James's theory of the subject as the "passing thought."

I allow myself to express this theory by saying that in memory the past state remembered "really *is* another consciousness." This, according to Professor Bakewell, is "discontinuity with a vengeance." How we should ever come to know the past, how the past selves should ever become ours, "remains a mystery" on such a view. Apparently, on the theory of a "permanent non-temporal ego" all is explained. The truth is that Professor Bakewell does not understand any better than I do how we come to know the past or how the past self becomes the present self; he merely *feigns* that they are identical, though he knows very well that they are only partly so; and this feigned identity seems to him to be an explanation, though it is in reality only a restatement of the facts.

2. Professor Bakewell admits that knowledge of the past and knowledge of other minds is transcendent; but he raises a great outcry over my doctrine that transcendent knowledge cannot be fully justified either by experience or by reasoning from experience, and is therefore non-rational or pre-rational. I express this view by saying that we transcend by "instinct," and this expression comes in for his special reprobation. Any irrational prejudice, such as hatred of a fellow-man, any superstitious belief, such as that in "witches and warlocks," might be justified on similar grounds.

And yet Professor Bakewell, as a student of the history of philosophy, must have read very much the same thing in Hume (see *Treatise*, Green & Grose's ed., Pt. III, Sect. XVI, p. 471; *Enquiry*, same ed., Sect. V, Pt. I, p. 41, Pt. II, p. 47; Sect. IX, p. 88; Sect. XII, Pt. II, p. 131). Did he feel, I wonder, in reading it, a similar apprehension lest his author should succumb to a belief in "witches and warlocks"?

Let me try to explain what I mean when I say that we transcend by "instinct." I pointed out in my book that the argument from analogy by which we are commonly supposed to reach our belief in other minds is not a logically valid argument, since from three empirical facts, — my body, my mind, another person's body, — you cannot infer a non-empirical existence, — the other person's mind, — without a logical leap. This does not mean that the argument from analogy is worthless and to be cast to the winds, but that it rests on a suppressed premise which is in its nature incapable of proof; namely, the existence of anything transcendent at all (pp. 217-219). Conceiving

the inference of things-in-themselves to be exactly analogous to, and merely a further extension of, that of other minds, I naturally make the same distinction here. My "proofs of things-in-themselves" are in the same position as the argument from analogy; indeed, one of them *is* the argument from analogy (see pp. 291, 292); they mark the places where things-in-themselves must be assumed, and indicate the character of the things-in-themselves to be assumed there, but they are powerless logically to carry us outside of our own consciousness. For this we need the force of instinct.

By 'instinct' I do not of course mean the social instinct, nor yet a special instinct *ad hoc*, but merely this: that, having an idea which, as a matter of fact, represents (*i. e.*, symbolizes and enables us to adjust our relations to) an extra-mental thing, we both act and think as if what we had to do with were the extra-mental thing and not the idea. In memory, for instance, we act as if our idea were the past experience itself, — that is, we act as if it were useless any longer to act; in expectation, we act as if the experience expected were on the point of appearing; in the assumption of other minds, we act, — not merely muscularly, but in the sequence of our thoughts, — as if those minds existed now, but externally to our own. This peculiar habit of action, which can hardly have been acquired in the lifetime of the individual, and which is certainly no product of reasoning, seems to me to correspond pretty closely to the definition of instinct.

But Professor Bakewell will have it that our belief in other minds is capable of justification on rational grounds. I cannot but regret that it did not occur to him to indicate these; that would have been such a simple way of disposing of the view that transcendent knowledge is instinctive. If he should reply to these remarks, I count on him to produce the reasons which in his opinion justify us in transcending.

One other point in this connection I desire to refer to before passing on. Professor Bakewell says that, by projecting physical facts beyond the subject, I "myself create the gaps which I invent my things-in-themselves to fill." As well might one say that, by conceiving people's bodies as expressive of something real, we ourselves create the gaps in which we place their minds. Why not be satisfied with their mere bodies? But now, I have shown that when people's minds act on each other, not directly, but across intervening matter, *there is a temporal gap*, in so far as the groups of physical events that are accompanied by consciousness are separated from each other by physical events that are not so accompanied (see pp. 255, 256). Here, then, is the gap which makes things-in-themselves necessary, and it is not of my inventing but of Professor Bakewell's ignoring.



3. Coming to the third matter, — the panpsychist solution of the problem of the relation of mind and body, — I must give Professor Bakewell credit for an honest and partially successful effort to understand that solution. And I am coming more and more to see that it is not an easy solution to understand. The limits of space set me by the editor are so narrow that I am not sure I can do justice to the subject here, but I will do the best I can, promising that I hope to give a new and detailed exposition of the theory in an early article.

Perhaps the simplest way will be to set forth the explanation first in terms of Berkeleian idealism, and then to correct that idealism. Professor Bakewell sees that A's consciousness might be conceived to call forth in B's a perception which should be that of A's brain-process. Now, if physical facts were identical with the perceptions of them, this would be, in principle, a complete explanation of the relation of mind and body. But Professor Bakewell points out that the object perceived is other than the perception of it, and that the mystery of the relation of mind and body is precisely how the mind can influence (or run parallel with, or be dependent on) the 'content' of the perception rather than the perception.

Here I would observe that, if the panpsychist had only succeeded in resolving the problem of the relation of mind and body into the problem of the relation of perception and object, he would at least have brought the former problem a step nearer to solution. But I shall be told that there is no plausibility in the resolution, unless it can be shown that the problem of the relation of mind and body is capable of solution along that line. Well, this can be shown.

The distinction between object and perception is not a numerical difference between a physical reality and a mental state, the latter 'intuiting' the former, but a logical distinction between two different ways of considering the same sensation-stuff in our thought, according as we take it in its relations with other similar sensation-stuff, and then we class it as a physical object, or take it as an episode in our personal history, and then we class it as a mental state. When we do the former, we are led by a variety of causes (of which I have given a sufficient account in Ch. xii) to attribute to it a continuity and permanence, and an independence of our minds, like those which belong to things-in-themselves; and our ability to do this is an exhibition of the peculiar instinct above referred to, by which we act and think as if what we had to do with were the transcendent object and not the mental state.

All this while, the object so conceived has no existence apart from the extra-mental reality, on the one hand, and the mental state, on the other; it is a purely ideal object. But an ideal object has no existence except when thought of. All the panpsychist is bound to account for, therefore, is the existence of the perception. Hence the passages where I argue that the only way to influence the content of a perception is to influence the perception (p. 306); that content, as a subjective fact, means simply "the character this and other like perceptions will have in case they exist" (p. 305); but that, in every actual case (which is the only sort of case we need consider), "the perceptions actually influenced are those only of persons physically near, and the possible perceptions of other persons are as a matter of fact impossible" (p. 306).

It seems to me that in these suggestions I have given all the data that are necessary for a complete thinking out of the panpsychist solution. If many nimble minds are so prepossessed against the theory by the names of its sponsors or contributors, — Berkeley, Hume, Fechner, Clifford, — that they will not take the trouble to think it out, I am willing to leave it to the future to decide whether the loss is theirs or mine. Meanwhile I await with eagerness some account of the explanation of the connection of mind and body that is implied in transcendentalism or in personal idealism.

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#### A REJOINDER.

The chief difficulty that I find in Professor Strong's argument, as he has elaborated it in *Why the Mind has a Body*, and again briefly indicated it in his courteous reply to my review of that work, is this: His conception of the ego as the "passing thought" does not bear the strain of metaphysics which he puts upon it. (Whether or not this notion is adequate for the needs of the science of psychology, where "the father of the brat" modestly confines it, is another question and does not concern us here.)

The ego is, according to Professor Strong, the present ego, and the present ego *is* the present state of consciousness. The "past state remembered really *is* [or was] another consciousness." The mind transcends the solipsistic limitations, in which experience and reason would confine it, solely by "the force of instinct." And, thereupon, the real world is taken on trust in this instinct, as being made up of many such minds, — now called things-in-themselves, — each one, however, as helpless to reach its neighbors either by reason

or by experience as were the "windowless monads" of Leibniz. Nothing but a *tour de force* can set up relations between them, — and then, indeed, it is hard to see how these relations can be conceived as real and as *between them*. Moreover, this atomistic pluralism is put in a still worse case by the affirmation of the purely transient character of the several minds. The consciousness, which the ego is, is, we are told, "*real as long as it lasts*." Thus our "things-in-themselves" are, it would appear, realities that flash into existence and out again, like regular ontological Jack o' lanterns. This seems to me to make our real world about as discontinuous as one could possibly imagine it, and to shroud in impenetrable mystery the facts of memory. To this Professor Strong replies, not quite pertinently, that I do not understand any better than he does how we can know the past. I "feign an identity." And this feigned identity, he adds, I seem to think an explanation, "though it is in reality only a restatement of the facts." If a restatement of the facts, it is not a feigned identity. However, I certainly did not maintain that a mere recognition of a deeper identity underlying the empirical pulses of consciousness was itself an explanation of memory. It is very far from being such an explanation. What I do maintain is, that this identity once admitted, even as partial identity, an explanation of memory becomes at least not inconceivable; whereas, if the self be wholly accounted for in the passing thought, memory involves a real relation between wholly sundered realities, and must therefore be once and for all time a mystery, since the terms in which the problem is then stated are, for our intelligence, self-contradictory.

But again, as opposed to this view of the ego, Professor Strong holds, as if seeming to feel its inadequacy (see his "Reply"), that continuity and permanence, as well as independence, belong to things-in-themselves (that is, to minds). If this be true, then his account of the ego needs revision, and that revision would, I believe, bring him much nearer to what is most fundamental in the doctrine of a non-phenomenal ego, for that is a recognition of precisely this permanent aspect of the ego, which, because permanent, can never be "given" in the phenomenal as such, whether the phenomenal be taken either as the immediate object of thought or as experience, in the restricted sense in which I understand Professor Strong to use this term.

Professor Strong objects to my speaking of the subject as "intuiting" or "witnessing" a state of consciousness, and in particular to my using these expressions in describing his view, since they imply, what he denies, the existence of a non-empirical ego. I acknowledge

the justice of the complaint and withdraw the terms. I used them to describe the character of immediate awareness that is supposed to be found in the *self*-experience, and I added in explanation Professor Strong's own phrase, that the self is "experienced but not known." I refer to this matter again here because the difficulty that one experiences in trying to state this view without seeming to depart from it is itself a significant fact; and others, who should be more skilful in manipulating it than I am, seem to be caught in the same snare. For instance, Professor Strong, in his "reply," speaks reprovingly of those who "imagine that not merely thought but experience requires a subject; they think that anything of which *we* can be aware, not merely in the sense of knowing, but in the sense of immediate feeling, requires a subject to be aware of it." Why bring in that *we*? And he continues: "Thus they make the subject a thing of which *we* cannot be in any sense aware," as if, on his own theory, *we* could. Yet, if I understand that theory, we should, in strictness of speech, say, "there is simple self-awareness." In a striking passage in his book, which illustrates the difficulty of making speech conform to the view that would identify the ego with "the fresh experience as it comes," Professor Strong writes: "The ego is the fresh experience as it comes, before *we* have had time to turn round upon *it* cognitively, and while *we* — that is, *it* — are engaged in cognizing other things" (p. 208; Italics mine in this paragraph). This difficulty, which seems inevitable, is one of the reasons for suspecting the adequacy of the account of the self in terms of the "passing thought."

Whether the "gaps," to fill which Professor Strong introduces his things-in-themselves, are found or invented, will depend on the extent and the nature of the "transcendence" implied in our knowledge of the past and of other minds, and this, in turn, will depend on our account of the ego. Professor Strong, of course, thinks that they are not invented, and he adds, as well might one suppose that, by "conceiving peoples' bodies as expressive of something real," we should create the gaps in which we place their minds. But in this case we most certainly should be inventing the "gaps," if by calling the bodies expressive of something real we meant that they were cut off from consciousness, from experience, and from knowledge, and independently existing. The notion of transcendence calls for careful scrutiny. There is undoubtedly a transcendence involved in memory and in perception; but here it is the transcendence of the momentary phenomenal self, of the "passing thought," and not of the real self. There is a kind of transcendence, even of the real self, in passing to

other minds. But, even in this case, the transcendence is not complete and absolute, in the sense that the individual mind is wholly cut off from real communion with, real relations to, other minds,—relations that are discovered by reason and experience. The truth of this is evidenced by the fact that the isolated ego is a sheer abstraction. We do not first find in experience such an ego, and then have to search for other minds. The very private self always gets part, at least, of its meaning in terms of other minds. Here is a fact that furnishes a problem requiring solution, and, with a true conception of the ego, it is soluble.

But Professor Strong cuts the knot by "the force of instinct." Is it not true, however, that any reference to instinct is simply naming a problem for future solution? And until that solution is found, one can never be sure that the capacity called instinctive is a power "derived from the hand of nature," and not simply a habit due to ignorance or prejudice. Professor Strong writes: "This peculiar habit of action [whereby we do transcend the self], which can hardly have been acquired in the lifetime of the individual, and which is certainly no product of reasoning, seems to me to correspond pretty closely to the definition of instinct." But we must observe that this transcending he further holds to be necessary in order to make experience intelligible. Now, a habit of the mind that is not the result of experience, nor a product of reasoning, and yet is necessary to make experience intelligible, is not so far from being a definition of the *a priori*, or of reason itself. If, now, we take Professor Strong at his word when he endows his things-in-themselves with permanence and continuity, and further endow them with instinct in this sense, we are still nearer to the conception of the non-phenomenal ego.

As for the general panpsychist contention, I am more nearly in agreement with Professor Strong than perhaps he suspects. Even the term 'panpsychism' I could adopt, if its sponsors had not so restricted the meaning of the *psyche*. I believe, with him, that the problem of the relation of mind to body is brought nearer solution by being resolved into the problem of the relation of perception to object,—though I think these terms not of the happiest,—and that it is capable of solution along these lines. And I follow him further in making the distinction between object and perception logical rather than ontological. But when we reach this point, it is seen that the object is at once dependent on two or more distinct egos; and the puzzle of the relation of mind and body returns in this form: How can I influence perception in another consciousness? To say that I

do so "by influencing the perception," as Professor Strong does, and that "the perceptions actually influenced are those only of persons physically near," is merely a restatement of the fact calling for solution. So, when we reach the end of his book, we are, it seems to me, just ready to begin to discuss the real problem, and we should be in a better position to do so if the way had not been barred by the author's conception of the ego.

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## REVIEWS OF BOOKS.

*Pure Sociology: A Treatise on the Origin and Spontaneous Development of Society.* By LESTER F. WARD. New York, The Macmillan Co., 1903.—pp. xii, 607.

To attempt an account of this work or an estimate of its value as a contribution to sociology would not be in place in this REVIEW, even if the present writer were competent for such a task. An appreciation of the results attained for sociology by the labors which have extended through so many years, and have had so many obstacles to surmount, must come from fellow workers in the cause of determining the principles and methods of the still inchoate science. The interest of the student of philosophy and psychology lies, first, in seeing what the author's conception of sociology is, and therefore what relation sociology is conceived to occupy to social psychology, ethics, the philosophy of history, and various other social sciences; and secondly, in case the author covers fields which are worked also by the philosopher or psychologist, in comparing his treatment with that of other workers.

Dr. Ward's view of sociology inevitably invites such comparison. For the subject matter is declared to be 'human achievement.' Another definition is that pure (as distinguished from applied) sociology is "a treatment of the phenomena and laws of society as it is, an explanation of the processes by which social phenomena take place, a search for the antecedent conditions by which the observed facts have been brought into existence, and an ætiological diagnosis that shall reach back as far as the state of human knowledge will permit into the psychologic, biologic, and cosmic causes of the existing social state of man." It is evident, also, that Dr. Ward is at least as much interested in his ætiological diagnosis as in the phenomena and laws of society. In round numbers, about one fourth of the volume is devoted to the general logical and methodological discussion, one fourth to cosmic and biologic material, one fourth to analytic and genetic psychology, and one fourth to human society. Moreover, the author's view of what may properly be regarded as a cause of the existing social state is very catholic. Something over thirty pages are devoted to a discussion of the relation of the sexes in plants and animals as preface to the author's 'gynæcocratic theory.' In tracing the 'biologic' origin of the subjective faculties, a beginning is made with the nebular hypothesis. The author's interest in botany prompts frequent

excursions into that field for analogies. Many topics of various sorts are adverted to in passing, as if on the theory that sociology as a *scientia scientiarum* 'embraces all truth' (p. 91).

The work is thus constructed on lines similar to those of Schopenhauer's *The World as Will and Idea*, or of Spencer's "Synthetic Philosophy", rather than of a distinctive treatise on society, and much of its subject matter covers ground which the philosopher and psychologist have regarded as theirs. Of course there can be no valid objection to this, if the material is so treated as to yield new or better results than at the hands of former workers. Philosophers since Plato have written of society; there is no reason why the sociologist should not write philosophy and psychology. Social and genetic psychology are certainly not so far advanced as to be disposed to reject aid from any source. At the same time, it is almost inevitable that the writer who comes to these fields from a different line of work should fail to be acquainted with the history of investigation, or at least should miss the full significance of the past century of criticism and revision, even when certain aspects of it are known. Certain points in which the author appears not to be in agreement with the views of philosophy and psychology will be noted farther on.

The book is divided into three main sections: "Taxis," "Genesis," and "Telesis." One would not begrudge a new science any needful assistance in the way of technical terms, and so one is willing to accept "taxis" instead of scope and method, and "telesis" for the treatment of phenomena which result from intention or design; but it seems quite undesirable to give the perfectly well-established terms 'genesis' and 'genetic,' a meaning at once narrower and broader than that of current usage. For the author means by genesis not "coming into being," or origination in general, but only processes characterized by the absence of intention, and calls the drifting of an iceberg a 'genetic' process.

Perhaps the author would not care to press this meaning of genetic in his definition of sociology as being a 'genetic' product from the other sciences; for, although he says that the special sciences 'spontaneously generate it,' he yet might allow some element of purpose or intention in the ordering of the materials.

As in the author's former works, the line is sharply drawn between the dynamic and the directive agency. The dynamic agency is declared to be feeling, or the 'subjective' ('subjective' is apparently used as a synonym for 'relating to the organism'); the directive agency is the intellect. "The distinction is generic and there are no



intermediate stages or gradations from one to the other." One is a force, the other is a relation (p. 457). From the former, and by 'genetic' processes, spring not only desire and will but all forces, moral, æsthetic, and intellectual. The latter, viz., the directive agency having as its root 'indifferent' sensation (as opposed to the 'intensive,' or pleasure-pain sensation which is the basis of feeling) gives rise to 'advantageous' and 'non-advantageous' faculties.

The question at once arises: Is this division between dynamic and directive agency, regarded by the author as absolute, or only as a convenient abstraction in treating certain aspects of a complex human nature in which directive and dynamic agencies are constantly and reciprocally shaping or affecting each other? If we could suppose that the author views the division merely as an abstraction, there is much in the treatment with which the psychologist could heartily sympathize. For Dr. Ward makes a serious attempt to trace the origin and growth of conation and pleasure-pain feeling, on the one hand, and of intellect, on the other, and the psychologist's treatment of these topics, while not so entirely non-existent as the author seems to think, is still very meagre. If the author would write impulse or conation for feeling (as has been pointed out in reviews of his previous works), present psychology would go along with him in giving this a relative priority to intellect. We may properly call the instincts, feelings, and passions the driving forces in society.

But the distinction does not seem to be taken merely as a convenient abstraction. The claim is frequently made that we have to do with distinct agents governed by distinct laws. "Social forces are natural forces and obey mechanical laws. . . . This is as true of the spiritual as of the physical forces" (p. 462). Where there is purpose, other laws must be sought. The conception of 'idea forces,' which in bringing out the motor nature of consciousness has certainly performed important service, is said to involve a psychological jumble.

The author is indeed aware that conation as it develops implies some ideation, but his treatment of this is certainly nothing less than naïve. In explaining desire (p. 137), it is noted that "desire presupposes memory, which must therefore be one of the earliest aspects of mind." (It seems fair to suppose that 'mind' here stands for intellect or objective mind, *cf.* the collocation on p. 176.) The explanation now follows: "In fact memory is nothing but the persistent representation of feeling, continued sense vibrations after the stimulus is withdrawn, and involves no mystery." There is apparently no consciousness in the author's mind of the mixed category involved in

the phrase 'sense vibration,' and no difficulty in identifying 'representation' and memory with continued vibration. And lest it be thought that the 'vibration' is merely a metaphorical term which is not intended literally, the next sentence amplifies the point and shows how there is 'no mystery.' "Just as a bell will continue for a time to ring after the clapper ceases to beat upon it, so the nerve fibers or protoplasmic gelatine, continues to vibrate for a time after the object, agreeable or the reverse, is no longer in contact with it"; and a little later we have the phrase 'mnemonic vibration.' There has been some progress in psychology since Hobbes, and while it goes without saying that the psychologist supposes some nervous process,—not quite so simple, perhaps, as that of mechanical inertia,—it is also true that modern psychology is aware that it cannot solve psychological problems by physical or biological categories.

Dr. Ward has indeed elsewhere (p. 79 ff.) expressed his appreciation of a principle which, if carried through consistently, would have led to the reconstruction of his work. This is the principle which Wundt calls 'Creative Synthesis' and states: "There is absolutely no form which, in the meaning and value of its content, is not something more than the mere sum of its factors or more than the mere mechanical resultant of its components." The principle is, of course, as old in essence as Aristotle, and has been prominent since Kant, but its full methodological significance is not always seen. Dr. Ward uses it to make possible a connected history of the successively higher products of nature, from ether through chemical elements, organic compounds, protoplasm, to man and society. Each higher product has a new and distinctive property (pp. 92 ff.). Every modern worker assumes that there must be such historic continuity; but this principle by no means explains anything. To use it as an explanation would be as unscientific as to suppose that 'evolution' is itself an explanation rather than a problem. 'Creative synthesis' and 'evolution' are both more fruitful ways of stating the problem, but they are statements, not solutions. For the principle in question calls attention to the fact that we have not explained any form completely by analyzing it into its factors and components. So long as we remain scientists in a limited field, it means, therefore, that the biologist cannot complete his work by a chemical statement, nor a psychologist his by a biological—much less by a mechanical statement. For the new content demands its own treatment. If, however, we become metaphysicians as well as scientists, in the sense of trying to read the process as a whole, then, as Aristotle taught, the principle means that the earlier must be read in the light of the completed process as truly as *vice versa*.

The use of the term 'natural' is also somewhat irritating to the student who is familiar with the ambiguities in that term and with the controversies which have raged. To him it does not seem "a paradox that the artificial is superior to the natural," if by natural we mean what is devoid of intelligence. Nor does it seem important to argue that all faculties have a natural origin, if we use the term nature as comprehending all experience. But, at the same time, such an account of the origin of perception and reason as is found on pp. 477 ff. will be far from satisfactory. 'Perception of relations,' which is here made so easy, involves far more complex processes than are here suggested. Numerous other illustrations could be given of what to the student of philosophy and psychology must appear as instances of explanations which ignore the difficult points of the problem. The psychology of the book will in general be likely to serve a purpose by provoking the psychologist to give fuller treatment to genetic problems, rather than as a positive solution.

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*Principia Ethica.* By GEORGE EDWARD MOORE. Cambridge, at the University Press, 1903. — pp. xxvii, 232. X

"One main object of this book," says the author, may "be expressed by slightly changing one of Kant's famous titles. I have endeavored to write 'Prolegomena to any future Ethics that can possibly pretend to be scientific'" (p. ix).

Fortunately for the reviewer, Mr. Moore has made the task of presenting the fundamental theses advocated by him an easy matter, for at the end of each chapter one finds an adequate summary of the preceding discussions. By quoting these summaries the reviewer can therefore put the reader in possession of the contents of the book. As most of the points urged cannot be debated without occupying more space than a review puts at one's command, there will be no attempt to criticise the positions taken by the author. Many of them seem to be extremely questionable, and the arguments employed to support them are often more ingenious and subtle than convincing, but this is not the place to canvass them satisfactorily.

At the close of the first chapter, which deals with "The Subject-Matter of Ethics," Mr. Moore tells us that he has "endeavoured to enforce the following conclusions. (1) The peculiarity of Ethics is not that it investigates assertions about human conduct, but that it investigates assertions about that property of things which is denoted by the

term 'good,' and the converse property denoted by the term 'bad.' It must, in order to establish its conclusions, investigate the truth of *all* such assertions, *except* those which assert the relation of this property only to a single existent. (2) This property, by reference to which the subject-matter of Ethics must be defined, is itself simple and indefinable. And (3) all assertions about its relation to other things are of two, and only two, kinds: they either assert in what degree things themselves possess this property, or else they assert causal relations between other things and those which possess it. Finally, (4) in considering the different degrees in which things themselves possess this property, we have to take account of the fact that a whole may possess it in a degree different from that which is obtained by summing the degrees in which its parts possess it" (p. 36). This last fact Mr. Moore designates by the name of "the principle of organic unities."

The second chapter is entitled "Naturalistic Ethics." "In this chapter," says he, "I have begun the criticism of certain ethical views, which seem to owe their influence mainly to the naturalistic fallacy — the fallacy which consists in identifying the simple notion which we mean by 'good' with some other notion. They are views which profess to tell us what is good in itself; and my criticism of them is mainly directed (1) to bring out the negative result, that we have no reason to suppose that which they declare to be the sole good, really to be so, (2) to illustrate further the positive result, already established in Chapter I, that the fundamental principles of Ethics must be *synthetic* propositions, declaring what things, and in what degree, possess a simple and unanalysable property which may be called 'intrinsic value' or 'goodness.' The chapter began (1) by dividing the views to be criticised into (*a*) those which, supposing 'good' to be defined by reference to some supersensible reality, conclude that the sole good is to be found in such a reality, and may therefore be called 'Metaphysical,' (*b*) those which assign a similar position to some natural object, and may therefore be called 'Naturalistic.' Of naturalistic views, that which regards 'pleasure' as the sole good has received far the fullest and most serious treatment and was therefore reserved for Chapter III: all other forms of Naturalism may be first dismissed, by taking typical examples. (2) As typical of naturalistic views, other than Hedonism, there was first taken the popular commendation of what is 'natural': it was pointed out that by 'natural' there might here be meant either 'normal' or 'necessary,' and that neither the 'normal' nor the 'necessary' could be seriously supposed to be always

- good or the only good things. (3) But a more important type, because one which claims to be capable of system, is to be found in 'Evolutionistic Ethics.' The influence of the fallacious opinion that to be 'better' *means* to be 'more evolved' was illustrated by an examination of Mr. Herbert Spencer's Ethics; and it was pointed out that, but for the influence of this opinion, Evolution could hardly have been supposed to have any important bearing upon Ethics" (p. 58).

The third chapter is on "Hedonism." "The most important points," we are told, "which I have endeavoured to establish in this chapter are as follows. (1) Hedonism must be strictly defined as the doctrine that 'Pleasure is the only thing which is good in itself': this view seems to owe its prevalence mainly to the naturalistic fallacy, and Mill's arguments may be taken as a type of those which are fallacious in this respect; Sidgwick alone has defended it without committing this fallacy, and its final refutation must therefore point out the errors in his arguments. (2) Mill's 'Utilitarianism' is criticised: it being shown (*a*) that he commits the naturalistic fallacy in identifying 'desirable' with 'desired'; (*b*) that pleasure is not the only object of desire. The common arguments for Hedonism seem to rest on these two errors. (3) Hedonism is considered as an 'Intuition,' and it is pointed out (*a*) that Mill's allowance that some pleasures are inferior in quality to others implies both that it is an Intuition and that it is a false one; (*b*) that Sidgwick fails to distinguish 'pleasure' from 'consciousness of pleasure,' and that it is absurd to regard the former, at all events, as the sole good; (*c*) that it seems equally absurd to regard 'consciousness of pleasure' as the sole good, since, if it were so, a world in which nothing else existed might be absolutely perfect: Sidgwick fails to put to himself this question, which is the only clear and decisive one. (4) What are commonly considered to be the two main types of Hedonism, namely, Egoism and Utilitarianism, are not only different from, but strictly contradictory of, one another; since the former asserts 'My own greatest pleasure is the *sole* good,' the latter 'The greatest pleasure of all is the *sole* good.' Egoism seems to owe its plausibility partly to the failure to observe this contradiction — a failure which is exemplified by Sidgwick; partly to a confusion of Egoism as doctrine of end, with the same as doctrine of means. If Hedonism is true, Egoism cannot be so; still less can it be so, if Hedonism is false. The end of Utilitarianism, on the other hand, would, if Hedonism were true, be, not indeed the best conceivable, but the best possible for us to promote; but it is refuted by the refutation of Hedonism" (pp. 108 f.).

The fourth chapter deals with "Metaphysical Ethics." "The main object of this chapter has been to show that Metaphysics, understood as the investigation of a supposed supersensible reality, can have no logical bearing whatever upon the answer to the fundamental ethical question 'What is good in itself?' That this is so, follows at once from the conclusion of Chapter I., that 'good' denotes an ultimate, unanalysable predicate; but this truth has been so systematically ignored, that it seemed worth while to discuss and distinguish in detail the principal relations, which do hold, or have been supposed to hold, between Metaphysics and Ethics. With this view I pointed out:—(1) That Metaphysics may have a bearing on *practical* Ethics — on the question 'What ought we to do?' — so far as it may be able to tell us what the future effects of our action will be: what it can *not* tell us is whether those effects are good or bad in themselves. One particular type of metaphysical doctrine, which is very frequently held, undoubtedly has such a bearing on *practical* Ethics: for, if it is true that the sole reality is an eternal, immutable Absolute, then it follows that no action of ours can have any real effect, and hence no *practical* proposition can be true. The same conclusion follows from the ethical proposition, commonly combined with this metaphysical one — namely, that this eternal Reality is also the sole good. (2) That metaphysical writers, as where they fail to notice the contradiction just noticed between any *practical* proposition and the assertion that an eternal reality is the sole good, seem frequently to confuse the proposition that one particular existing thing is good, with the proposition that the existence of that kind of thing *would* be good, wherever it might occur. To the proof of the former proposition Metaphysics might be relevant, by shewing that the thing existed; to the proof of the latter it is wholly irrelevant: it can only serve the *psychological* function of suggesting things which may be valuable — a function which would still be better performed by pure fiction.

"But the most important source of the supposition that metaphysics is relevant to Ethics, seems to be the assumption that 'good' *must* denote some *real* property of things — an assumption which is mainly due to two erroneous doctrines, the first *logical*, the second *epistemological*. Hence (3) I discussed the *logical* doctrine that all propositions assert a relation between existents; and pointed out that the assimilation of ethical propositions either to natural laws or to commands are instances of this *logical* fallacy. And finally (4) I discussed the *epistemological* doctrine that to be good is equivalent to being willed or felt in some particular way; a doctrine which derives support from

the analogous error, which Kant regarded as the cardinal point of his system and which has received immensely wide acceptance — the erroneous view that to be 'true' or 'real' is equivalent to being thought in a particular way. In this discussion the main points to which I desire to direct attention are these: (*a*) That Volition and Feeling are *not* analogous to Cognition in the manner assumed; since in so far as these words denote an attitude of the mind towards an object, they are themselves merely instances of Cognition: they differ only in respect of the kind of object of which they take cognisance, and in respect of the other mental accompaniments of such cognitions: (*b*) That universally the *object* of a cognition must be distinguished from the cognition of which it is the object; and hence that in no case can the question whether the object is *true* be identical with the question how it is cognised or whether it is cognised at all: it follows that even if the proposition 'This is good' were always the object of certain kinds of will or feeling, the *truth* of that proposition could in no case be established by proving that it was their object; far less can that proposition itself be identical with the proposition that its subject is the object of a volition or a feeling" (pp. 139-141).

Chapter V deals with the "Ethics in Relation to Conduct." "The main points in this chapter, to which I desire to direct attention, may be summarised as follows: — (1) I first pointed out how the subject-matter with which it deals, namely ethical judgments on conduct, involves a question, utterly different in kind from the two previously discussed, namely: (*a*) What is the nature of the predicate peculiar to Ethics? and (*b*) What kinds of things themselves possess this predicate? Practical Ethics asks, not, 'What ought to be?' but 'What ought we to do?'; it asks what actions are *duties*, what actions are *right*, and what *wrong*: and all these questions can only be answered by showing the relation of the actions in question, as *causes* or *necessary conditions*, to what is good in itself. The enquiries in Practical Ethics thus fall entirely under the *third* division of ethical questions — questions which ask, 'What is good as a means?' which is equivalent to 'What is a means to good — what is cause or necessary condition of things good in themselves?' But (2) it asks this question, almost exclusively, with regard to actions which it is possible for most men to perform, if only they *will* them; and with regard to these, it does not ask merely, which among them will have *some* good or bad result, but which, among all the actions possible to volition at any moment, will produce the best *total* result. To assert that an action is a duty, is to assert that it is such a possible action, which will *always*, in

certain known circumstances, produce better results than any other. It follows that universal propositions of which duty is predicate, so far from being self-evident, always require a proof, which it is beyond our present means of knowledge ever to give. But (3) all that Ethics has attempted or can attempt, is to shew that certain actions, possible by volition, *generally* produce better or worse total results than any probable alternative: and it must obviously be very difficult to show this with regard to the total results even in a comparatively near future; whereas that which has the best results in such a near future, also has the best on the whole, is a point requiring an investigation which it has not received. If it is true, and if, accordingly, we give the name of 'duty' to actions which *generally* produce better total results in the near future than any possible alternative, it may be possible to prove that a few of the commonest rules of duty are true, but *only* in certain conditions of society, which may be more or less universally presented in history; and such a proof is only possible *in some cases* without a correct judgment of what things are good or bad in themselves — a judgment which has never yet been offered by ethical writers. With regard to actions of which the *general* utility is thus proved, the individual should *always* perform them; but in other cases, where rules are commonly offered, he should rather judge of the probable results in his particular case, guided by a correct conception of what things are intrinsically good or bad. (4) In order that any action may be shown to be a duty, it must be shown to fulfill the above conditions; but the actions commonly called 'duties' do not fulfill them to any greater extent than 'expedient' or 'interested' actions: by calling them 'duties' we only mean that they have, *in addition*, certain non-ethical predicates. Similarly by 'virtue' is mainly meant a permanent disposition to perform 'duties' in this restricted sense: and accordingly a virtue, if it is really a virtue, must be good *as a means*, in the sense that it fulfills the above conditions; but it is not *better* as a means than non-virtuous dispositions; it generally has no value in itself; and, where it has, it is far from being the sole good or the best of goods. Accordingly 'virtue' is not, as is commonly implied, an unique *ethical* predicate" (pp. 180-182).

The final chapter discusses "The ideal." "The main object of this chapter has been to define roughly the class of things among which we may expect to find either great intrinsic goods or great intrinsic evils; and particularly to point out that there is a vast variety of such things, and that the simplest of them are, with one exception, highly complex wholes, composed of parts which have



little or no value in themselves. All of them involve consciousness of an object, which is itself usually highly complex, and almost all involve also an emotional attitude toward this object; but, though they thus have certain characteristics in common, the vast variety of qualities in respect of which they differ from one another are equally essential to their value: neither the generic character of all, nor the specific character of each, is either greatly good or greatly evil by itself; they owe their value or demerit, in each case, to the presence of both. My discussion falls into three main divisions, dealing respectively (1) with unmixed goods, (2) with evils, and (3) with mixed goods. (1) Unmixed goods may all be said to consist in the love of beautiful things or of good persons: but the number of different goods of this kind is as great as that of beautiful objects, and they are also differentiated from one another by the different emotions appropriate to different objects. These goods are undoubtedly good, even where the things or persons loved are imaginary; but it was urged that, where the thing or person is real and is believed to be so, these two facts together, when combined with the mere love of the qualities in question, constitute a whole which is greatly better than that mere love, having an additional value quite distinct from that which belongs to the existence of the object, where that object is a good person. Finally it was pointed out that the love of mental qualities, by themselves, does not seem to be so great a good as that of mental and material qualities together; and that, in any case, an immense number of the best things are, or include, a love of material qualities. (2) Great evils may be said to consist either (*a*) in the love of what is evil or ugly, or (*b*) in the hatred of what is good or beautiful, or (*c*) in the consciousness of pain. Thus the consciousness of pain, if it be a great evil, is the only exception to the rule that all great goods and great evils involve both a cognition and an emotion directed toward its object. (3) Mixed goods are those which include some element which is evil or ugly. They may be said to consist either in hatred of what is ugly or of evils of classes (*a*) and (*b*), or in compassion for pain. But where they include an evil, which actually exists, its demerit seems to be always great enough to outweigh the positive value which they possess" (pp. 224-225).

These summaries show the great number of questions which Mr. Moore attacks; and it is remarkable that in the compass of a book of only a little more than two hundred pages he can treat them all so fully as he does. But as has already been stated above, his discussions are anything but satisfactory. His main thesis that the predicate

'good' means a quality that is unique and unanalyzable is ably defended, but the reviewer is left with the impression that more dialectical skill than sound judgment on matters of fact is displayed.

This review should not close without a word with regard to the great aid which the author gives his reader toward an easy understanding of his position. There is a table of contents, occupying fourteen pages. Here the central point of each section, — one hundred and thirty-five in all, — is given in a single sentence. By reading this table of contents anyone can see clearly what the book stands for even in its details. Then the summaries which have been quoted in this review recapitulate chapter by chapter the main points established. In addition to this there is an Index of six pages. Mr. Moore surely is indulgent to his reader, who cannot but be duly grateful for this assistance.

The work as a whole should be in the hands of every advanced ethical student, not so much because he will find in it solutions of problems that have been occupying him, but because he will find there extremely clear statements of these problems themselves. And although it may not be true, as Mr. Moore seems to think, that the difficulties and disagreements of which the history of ethics is full "are mainly due to a very simple cause: namely to the attempt to answer questions, without first discovering precisely *what* question it is that you desire to answer" (p. vii), still it is true that such a preliminary effort to comprehend the question at issue does much to clear up thought.

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*Kant: Sein Leben und seine Lehre.* Von M. KRONENBERG. Zweite neubearbeitete und erweiterte Auflage. München, C. H. Beck. 1904. — pp. x, 403.

That Dr. Kronenberg's book has some measure of popularity in Germany may be inferred from the fact that it has reached a second edition, though no doubt the special interest aroused by the recent celebrations in connection with the centenary of the philosopher's death has something to do with the demand for popular expositions of Kantian ideas just at this moment. As I have not seen the original edition of Dr. Kronenberg's work, I am unable to say anything as to the nature of the modification and expansion to which the author has subjected it. In its present form it has several good points as an account for the general reader of Kant's life and his significance in the history of modern thought. The four chapters of the first part con-

tain a full biography of the philosopher, with a sympathetic estimate of his character and a clear and useful sketch of the development of his thought in the pre-critical era, — a topic usually too lightly passed over in the current expositions. On one or two points Dr. Kronenberg is perhaps a little less critical than might have been desired. Thus he reproduces without any mistrust the story of Kant's supposed Scottish ancestry upon which recent investigation has cast doubts, of which, by the way, the Premier of Great Britain seems as ignorant as he professes to be of the contents of the daily newspapers. And English and American readers, at any rate, while they agree with the author's protest against the bad taste which has coupled Kant with Frederick William II. on the monument in the Berlin *Sieges-Allee*, will probably decline to take as seriously as it is meant the suggestion that in virtue of their common "ethical elevation" the philosopher should have been associated with Frederick the Great.

The exposition of Kant's critical philosophy which fills Chapters v-ix has the double merit of close fidelity to the original texts and successful avoidance of the mere reproduction of Kantian technicalities, and may, on the whole, be warmly recommended to the general reader who desires, without becoming a special student of philosophy, to obtain an intelligent and detailed conception of Kant's views as to the general character of human mental activity, and the grounds on which those views are based. The chief defect in Dr. Kronenberg's exposition, as well as in the brief chapter on the "Subsequent Influence of Kant's Philosophy" with which the book closes, is, in my own opinion, that he is content to play too much the part of the mere admiring expositor, and is too little alive to the gravity of the objections which recent advances, especially in empirical psychology and in pure mathematics, have made it possible to urge against the fundamental doctrines of the Kantian *Erkenntnisstheorie*. In such criticisms as Dr. Kronenberg permits himself, he appears as, on the whole, more in sympathy with Schopenhauer than with any other idealistic continuator of Kantian views. Thus he makes it a reproach to Kant in his concluding chapter that he was too much under the spell of the eighteenth century rationalism to do justice to the irrational element which is everywhere present in human life. Similarly, in the chapter headed "Philosophie des Zweckes," Dr. Kronenberg insists in the spirit of Schopenhauer upon "will-less contemplation" as the characteristic attitude of æsthetic appreciation. Whatever the merits of this view may be, as a piece of purely æsthetic theory (and even as æsthetic theory, it is open to the obvious criticism that it takes no account at

all of the mental attitude of the artist himself to his work), it is surely difficult to reconcile it as part of a comprehensive *Weltanschauung* with such whole-hearted championship of the 'practical reason' as the essence of human nature as Dr. Kronenberg has displayed in his previous account of the Kantian ethics. Indeed, I should be inclined to regard it as a very serious defect that the author, while repeatedly and emphatically proclaiming the 'primacy of will' as one of his chief philosophical tenets, has completely forgotten to explain whether he means the doctrine to be taken in the Kantian or in the radically different Schopenhauerian sense. It can hardly be that the omission is due to failure to recognize so obvious a difference.

For the rest, I trust I may be pardoned, in view of the interest naturally created by the Kant Centenary, if I devote this notice mainly not to Dr. Kronenberg, but to Kant himself. Now that Kant has been a hundred years in his grave, there can be no irreverence towards a great name in seriously asking ourselves whether the foundations of the Kantian doctrine are so firmly laid as most of us have been taught to believe. Has Kant really been the Moses commissioned to lead us into a land of philosophic promise, or are there grounds for suspecting that after all he has brought us out to perish in the wilderness? There seem to me grave reasons why we should at least allow the *advocatus diaboli* to get a hearing, and I suspect that one result of the hearing would be to moderate very considerably the claims made by the more enthusiastic Kantians for their master, while another would certainly be to revive the interest in those great constructive thinkers of the seventeenth century whom Kant, apparently without any real comprehension of their meaning, has taught philosophers for the last hundred and twenty years to dismiss with an epithet as 'Dogmatists.'

Kant's claim to be the central figure of modern philosophy must manifestly be accepted or rejected according as we accept or reject the doctrine of the first *Critique* on the limits and nature of knowledge. If the peculiar agnosticism of the first *Critique* should be proved untenable, then no number of profound incidental criticisms of life and morals such as the most determined anti-Kantian must admit to abound, *e. g.*, in the *Metaphysik der Sitten*, can save the credit of the Kantian system as a whole. Now the first *Critique*, while open to attack in all its parts, has of late been subjected to especially severe attack in its two most vital parts, the *Ästhetik* and the Antinomies of the *Dialektik*. Why I speak of these as the vital parts of the *Critique* should be at once apparent. If the doctrine of the *Ästhetik* as to the connection of mathematical truths with the 'forms of intuition' can be over-

thrown, the Kantian theory of knowledge will be shorn of its one really distinctive positive feature; while, if the Antinomies do not really *prove* contradictory results, the whole Kantian theory of the necessary limitations of knowledge is left without any proof except such proof as may be drawn from the consideration that some philosophers have committed paralogsms about God and the soul. Without the Antinomies, the *Critique of Pure Reason* would contain no solid ground whatever for denying that we may have a real and valid knowledge of objects which have never been presented as wholes in sense-perception. And without this denial what would be left of the Kantian system?

Now the *Æsthetik* in particular has been attacked from two quite distinct quarters, and in both cases, as it seems to the present writer, with complete success. To begin with, it is a difficulty we must all have felt about the Kantian doctrine of space and time that it is in part psychology, and, as such, amenable to the criticism of the empirical psychologist. And there seems little doubt that modern psychology will definitely accept Professor James's rejection of the whole method of the "Kantian machine-shop," in which a purely timeless and spaceless "manifold of sensation" is by some mysterious process worked up into temporal and spatial order *ab extra*. For my own part, at any rate, I can find no warrant in my experience for the theory of the double origin of the content of perception, on the one hand, and its form, on the other, which Dr. Kronenberg, like a good Kantian, repeats as if no doubt had ever been cast on any of its parts. It might not be impossible, perhaps, to disentangle Kant's logical conclusions from the medley of antiquated psychological errors which he offers as their ground, and to present the result in a form not open to the strictures of the psychologist, but so far as I know the thing has never yet been done, at any rate by our English and American Kantians. Till this is done, I contend, they are absolutely debarred from advancing the propositions of the *Æsthetik* as admitted philosophic truth, or even as *ἐνδοξα* in the Aristotelian sense, "things admitted by the wise, or by the majority of them."

Even more formidable are the objections which the labors of modern mathematicians have made it possible to urge against the logical positions of the *Æsthetik* themselves. Philosophers, I fear, are still too largely unaware of the absolute contradictions which exist on almost every point of importance between Kantianism and the well-established results of modern mathematical theory. I shall therefore beg leave to refer briefly to one or two of these contradictions, especially

as they seem entirely unknown to Dr. Kronenberg, who is thus in the position of defending a fortress in ignorance of the situation of its most exposed points.

1. Space and time, as studied by mathematical science, have no special connection with sensuous intuition, but are merely two among other special cases of the more general concept of serial order. This truth had already been clearly and repeatedly enunciated by Leibniz, and it is not the least of Kant's disservices to logic that his influence has long prevented, and still continues to prevent, philosophers from recognizing the essential superiority of his predecessor in the logic of the mathematical sciences. Even the devoted Kantian, however, should be able to see for himself that in *number* we have a form of order essentially independent of space and time and devoid of any special connection with sensuous intuition.

2. The one thing that seems certain about the space and time of mathematical science, though it is expressly denied by Kant, is that they are *concepts*, and in fact *class-concepts*. Space, for the geometer, is now known to be simply the class or aggregate of *points*, *i. e.*, of all terms which can be defined by a peculiar complex of intelligible inter-relations which it is the business of the logician to enumerate and distinguish. Time, in the only sense in which it can be the object of scientific analysis, is similarly the class or aggregate of *moments*. Hence it follows that it is a mere accident for our mathematical knowledge that the space and time of sensuous perception happen to afford instances of the defining relations by which the respective classes of points and moments are constituted. Any other group of terms which satisfy our constitutive relations may equally well be included under our mathematical concept of points or moments.

3. It follows that the demonstrations of geometry are dependent solely on rigid logical deduction from our original definitions and postulates, and absolutely independent of the construction of the diagrams which we may employ as aids to the imagination. Indeed, a geometrical conclusion which, like so many propositions of Euclid (*e. g.*, I 1, I 4, I 32) involves an appeal to sensuous intuition of a diagram, is logically not demonstrated at all, and its truth must remain problematic until some one succeeds in providing a purely symbolic proof, *i. e.*, a proof which rests only on rigid logical deduction and is independent of diagrams. Kant, as Mr. Russell has recently told us, may be held largely excusable for his mistake on this score, seeing that in his time there was possibly no single really valid piece of mathematical reasoning in existence. It is less excusable in Dr. Kro-

nenberg to talk of Euclid as having once for all laid down the final principles of geometrical method, and to cite as his stock instance of a certain universal truth a proposition (I 32) which we actually *know* to depend upon the purely empirical Euclidean postulate of parallelism, and thus to be true only for spaces conformable to that postulate.

4. Neither Kant nor any of his followers has ever adduced any serious reason for the belief that arithmetic depends upon sensuous intuition. Indeed, it is not easy to understand what such a statement would mean, and I suspect that it owes its presence in the Kantian philosophy solely to the illogical inference that, if geometry depends for its demonstrations on diagrams, as Kantianism falsely asserts, arithmetic must have a similar dependence on something sensuous, though we may be entirely unable to say what that something is. That the proposition in question is false, might have been at once inferred from the simple consideration that we can count and perform all the operations which arise from counting upon objects (*e. g.*, pure concepts, acts of attention, etc.) which involve no element of sensuous perception. Its falsity is not more conclusively, though undoubtedly more strikingly demonstrated *a posteriori* by the successful extension of arithmetic to the transfinite numbers, objects which from their very nature are incapable of being obtained by the actual counting of sensible things. Kant has, however, the merit of having avoided the exquisitely silly conclusion of some of his expositors that arithmetic must depend for its proofs on the intuition of time, because it takes time to count.

Until these objections to Kant's *Ästhetik* have been seriously met, it seems fair to infer that all that is peculiar to Kant in his theory of mathematical knowledge is at least under grave suspicion of falsity, and that the only Kantian position which is certainly valid is the assertion, common to Kant with the despised 'Dogmatists,' Plato, Descartes, Spinoza, Leibniz, that mathematical truths are certain and universal, and therefore non-empirical. Whether, because *a priori* in the sense of being non-empirical, they are also *a priori* as being in a special sense 'the work of the mind,' appears to be an entirely different issue.

I have spoken at such length of the apparent paralogsms of the *Ästhetik* that I must be content with a very brief indication of similar weaknesses in the *Analytik* and *Dialektik*. The *Analytik*, again, presents a difficulty owing to its extraordinary jumbling up of logic with psychology. Until I had read Dr. Kronenberg, I had supposed that even the most ardent Kantian must feel some misgivings about the whole tribe of faculties and operations which figure in the deduction

and schematism of the categories. Apparently I was mistaken. Shall I be equally mistaken in thinking that these faculties and their operations have at least no place in a scientific psychology?

More serious ground for dissatisfaction is afforded by the perfunctory treatment given by the *Critique* to the logical forms of judgment themselves. Nowhere does Kant appear less favorably in comparison with Leibniz than when we contrast the modicum of school logic borrowed by Kant from the text-books as the foundation of the scheme of categories with the systematic logical researches of his predecessor which, as we now know, thanks to M. Couturat, were extended over a life-time, and succeeded in anticipating the most remarkable achievement of the nineteenth century in the realm of pure thought, the creation of the logical calculus of Boole.

There remains the *Dialektik*, as to which I have only the space to observe that it is really not creditable on the part of Kant's disciples to repeat the famous antinomies without some attempt to justify their logical characters against the trenchant criticisms, *e. g.*, of Mr. Russell and M. Couturat. It cannot ever be urged in defense that the antinomies hold the floor and that the burden of proof rests with their assailants. The work already done in recent times upon the transfinite numbers has at any rate shifted the *onus probandi* from the shoulders of the consistent 'infinitist,' with whom it remained from Aristotle's days until our own, to those of the orthodox Kantian agnostic who maintains the impossibility of genuine scientific knowledge of the 'transcendent.' But if knowledge of the 'transcendent' be once admitted, in the comparatively harmless form of knowledge of the properties of the numerical infinite, what becomes of the pretended demonstration that God and the soul, because 'transcendent' objects, must be purely unknowable, though it is morally edifying to make certain logically groundless affirmations about them?

I trust the foregoing reflections will not be censured for deficiency in reverence towards a great philosophical reputation. Assuredly for all of us Kant's intellectual greatness and the inspiration of his life must remain unaffected by our judgment upon his peculiar logical theories. My interest is not even primarily to meet uncritical over-laudation of Kant by countervailing depreciation. What I hope even these few hurried reflections may help to do is, in the first place, to call attention to the pressing need for us to get back from Kantian prejudices to the study of Kant's greater predecessor, Leibniz, now at last being made possible by the labors of M. Couturat, and next to impress on any readers who may peruse these lines the need for a



fresh re-examination of the problem of the transcendent object. If the transcendent should prove to be knowable, many current philosophies, notably Phenomenalism and Pragmatism, which have thriven by popularizing and caricaturing the ideas of the *Dialektik*, will need to revise their first principles.

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## SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Am. J. Th.* = *The American Journal of Theology*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mét.* = *Revue de Métaphysique*; *Rev. Néo.-Sc.* = *Revue Néo-Scolastique*; *R. d. Fil.* = *Rivista di Filosofia e Scienze Affini*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Psych. u. Phys.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*. — Other titles are self-explanatory.]

### LOGIC AND METAPHYSICS.

*Kant's Transcendental Idealism and Empirical Realism.* C. M. WALSH.  
Mind, 48, pp. 454-472; 49, pp. 54-71.

Premising that by idealism Kant understood a doctrine of unreality, by realism the contrary, we may name four doctrines which he held, and four which he rejected. Those he held are: (1) transcendental idealism of intuitions and phenomena; (2) empirical idealism of things-in-themselves; (3) transcendental realism of things-in-themselves; (4) empirical realism of intuitions and phenomena. The four opposite doctrines he rejected. But in those he held, while (1) and (3) are perfectly consistent with themselves and with each other, (4) is not self-consistent, or altogether consistent with (1) and (3). Kant has given two distinct accounts of this empirical realism. In one the phenomenally real *is* the matter of our sense-perceptions, or simply our sensations themselves; or the empirically real is only either the by us experienced or the by us experienceable. In the other the phenomenally real is that which *corresponds* to the matter of our sense-perceptions, or simply to our perceptions. Phenomenal objects, on the one definition, cannot exist apart from our perception; on the other, they can. This doubleness of Kant's empirical realism is most apparent in his treatment of unexperienced real phenomenal objects. The first form of it is consistent with his transcendental idealism and his transcendental realism, (1) and (3); but the second is not. This second and inconsistent form arises from Kant's speaking of one time and of one space, forgetting that there must be as many distinct though similar times and spaces as there are distinct persons, and even going further to speak of one experience, one consciousness, and, as a consequence, one phenomenal world and one nature. On this view, phenomenal objects exist outside us in an outside space and time, and correspond to our representations. Yet they are not transcendental, but empirically real, because they are objects in an experience. The adoption of this form of realism is facilitated by four ambiguities. 'Outside me' is ambiguously used by

Kant to express both spatial and transcendental externality. 'Inside me' is used to describe both the non-spatial objects as *merely* successive in time, and, in a wider sense, to cover objects extended in space, since these are also successive in time. This wider use is more prominent in the second edition of the *Critique*. 'Phenomenon' is also ambiguously used to mean both the appearance of a thing and that which appears, and thus phenomena become both subjective and objective. Still another ambiguity exists as to the 'analogies' or principles of the understanding. In the *Analytic* they are distinguished as constitutive or regulative; as to experience they are all constitutive; but in the *Dialectic* the constitutive principles are frequently treated as nothing better than regulative principles, though they are still retained also as constitutive. Examining the second Analogy, that of the 'Principle of Production,' from this point of view, we find that, as constitutive, it fits in only with the second form of empirical realism that we have described; but, as regulative, it agrees only with the first form. Of Kant's two accounts of empirical realism, the first turns out to be not empirical realism at all, since it reduces all real sensible objects to be unreal except as states of our individual consciousnesses. And the second is really empirical idealism, since it is transcendental in placing the real objects of experience in a single experience which is not yours or mine. Whose this experience is, or how the phenomena appearing in it are caused, Kant does not tell us. Phenomenal objects outside us must be either things-in-God or things-in-themselves, and the term 'phenomena' is misleading in either sense. And since Kant states that things-in-themselves are created by, and depend upon, God, for whom they are noumena in active intuition, the transcendental, like the empirical realism, must reduce to either Berkeleyan idealism or Spinozistic pantheism, according as the subjects-in-themselves are regarded as existent or merely subsistent. Transcendental realism in respect to sensible objects in space and time Kant rejects, because it will not permit of our possessing certainty in physics and mathematics, yet on the second form of his empirical realism the sensible objects are just as far removed from the control of forms and laws in us. In fact, the only way in which his epistemological argument can be satisfied is by Solipsism. He was confused in his treatment as much in respect to phenomenal objects as to things-in-themselves, and gave to philosophy no consistent view of the world able to rank with those already founded. His originality—and his weakness—lies only in founding his system upon the argument that certain elements of thought are necessary for the possibility of certain cognitions taken as of facts.

EDMUND H. HOLLANDS.

*Ist die Annahme von Absolutem in der Anschauung und dem Denken möglich?* KURT GEISSLER. *Ar. f. sys. Ph.*, IX, 4, pp. 417-432.

Because the conception of the Absolute involves difficulties, it cannot therefore be cast aside; only inherent contradiction invalidates a concep-

tion. Preliminary, however, to any discussion of the Absolute should be its careful definition. The absolutes of geometry are not so treated; the point, *e. g.*, although perceived as pertaining to space, yet lacks the tri-dimensional aspect which is the very essence of space, and the 'limitless,' while not free from dimension (*e. g.*, the infinite projection of a straight line has length), yet is defined as that not to be exceeded. Both these potential absolutes, again, depend upon the *a priori* functioning of the mind. What is true of these, too, is true of the absolutes of arithmetic and logic. The zero, although loosed from the contradiction of the dimensionless yet endlessly small (*i. e.*, the point), is, as derived by subtraction, not absolute; unity, whether real or a category, has always opposed to it multiplicity. In metaphysics, again, the Absolute is the 'Omnipotent,' that which, while standing in relation, still *need* not do so. Either of its leading ideals, the Schellingean Identity, wherein is neither subject nor object, or the Hegelian, "an eternally-developing spirit" wherein "the contradictory is itself brought to a higher unity," is open to objection. Here, as before, our mind is so constituted as to be powerless to grasp the Absolute, even though it exist.

ARTHUR J. TIEPJE.

*Die Religionsidee.* DAVID KOIGEN. *Ar. f. sys. Ph.*, IX, 4, pp. 433-462.

The development of emotion is the unfolding of an immanent principle; it may be represented by the formula:  $x = a, a_1, a_2, a_3, \dots$ . Single emotions, however, have real significance only in reference to one central principle; every emotion is permeated with a deep striving to surround the other emotional rings, to intermarry with them. This principle is best defined as the life-force, and its most important manifestation is the universal emotion, 'religiosity,' the incarnation of the most inner intensity and the most outer extensity. Insistence on either characteristic to the detriment of the other, *e. g.*, Nietzsche's demand for the suppression or absorption of alien extensities, or Guyau's desire to aid strange social intensities, is undesirable. But 'religiosity' is not yet the religious idea; for this intellection and volition are alike needed. That is, on one side, knowledge, striving under the categories of cause and identity to interpret the ever-changing phenomenal, brings to light, if nothing else, the principle of continuity; on the other, the will for culture, seeking the broadening and deepening of personality and the illumination of the social consciousness, together with the firm grounding of ethical ideals, testifies to the immanency of the world-idea. The development of the religious idea, accordingly, is ever toward a more perfect conception of an inner teleology; from the conquering God to the ruling God, from the corporeal to the spiritual, from the unsocial to the social, from the tribal and national to the cosmic, above all, from the external to the inherent; such has been religion's advance. Long steps, indeed, have lain between the clannish Jehovah of the Hebrews, the external yet universal Father of the Lutheran Reformation, and the present tendency toward a belief in an eternally-self-realizing Absolute; in

fact, there have been retrogressions. Finally, now, connected with the religious idea is the destiny of the individual. All religion is a recognition of his dependence upon a 'something,' be that something what it may. Does this dependence end in realization, with retention of individuality, in absorption, or in annihilation? Surely in the former of the three; the yearning for immortality is too deeply-rooted to be illusory, is the very meaning of the life-force.

ARTUHR J. TIETJE.

*The Disjunctive Judgment.* G. R. T. ROSS. *Mind*, 48, pp. 489-501.

This article attacks the theory of Bosanquet and Bradley that the alternatives of a properly interpreted disjunctive judgment are mutually exclusive. They may be so in the case of a *a priori* disjunction by the law of excluded middle; but in a case of real disjunction, where the alternative terms both stand for positive concepts, it would follow on this theory that the judgments '*A* is either *B* or *C*' and '*A* is either not-*B* or not-*C*' have the same meaning. This is against the meaning of language, and would destroy the compelling force of the dilemma, since its minor premise would thus always be equivalent to a corresponding negative disjunction. The logical uses of the disjunctive judgment are in the dilemma and in division. It meets both if we interpret it as merely exhaustive. The minor premise of a dilemma enters the argument only so far as it is exhaustive, and when its conclusion is disjunctive, it is proved only in so far as it is exhaustive. The chief use of the divisive judgment is in classification, and here the force of the disjunction lies in its exhaustiveness, while the exclusiveness, if present, depends upon the predicates involved in each case. And the practical value of a classification lies in its exhaustiveness, not in its exclusiveness. Theoretically and practically, therefore, the function of the disjunctive judgment is to be exhaustive, not exclusive.

EDMUND H. HOLLANDS.

*L'évolution comme principe philosophique du devenir.* W. M. KOZŁOWSKI.

Rev. Ph., XXIX, 2, pp. 113-135.

As the conception of the Cosmos reduces to a spatial whole all coexistent phenomena, so the general formula of evolution brings unity to the temporal order. The idea of evolution involves the conception of a determinate direction of all change, and a common end, or goal, of the evolutionary process. Three elements may be distinguished in the scientific conception: (1) A continual change of state in the universe; (2) the mechanical or causal character of this change; (3) a constant direction of all change, involving an end to be reached in a finite or indefinite time. While the conception of a mechanically determined evolution is as old as philosophy itself, the modern conception differs from that held by the ancients in the assumption of the irreversibility of the process. Science admits that

a particular stellar system may, owing to the gradual retardation of its motion, again reach its original state of incandescence. Yet the irreversibility of the process as a whole is the logical consequence of two postulates: the mechanical unity of the universe, and the causality implied in the principle of evolution. The constancy in direction is not reached by empirical observation, but is deduced from *a priori* principles. The assumption of complete revolution denies the determination of each state by the preceding state. The law of the growth of entropy is merely a mathematical formulation of the principle of constancy in direction, and is complementary to the conservation of energy. Conservation expresses constancy in the amount of energy, and entropy, the direction of its transformations. Were conservation the only principle, phenomena would be reversible, *e. g.*, heat might pass from a cooler to a warmer body. The law of entropy states that the chance of such reversion is infinitely small. The reversibility of a single phenomenon seems logically possible when considered in isolation from the rest of the universe. But just as this would require external intervention, so the total reversion of the evolutionary process presupposes the agency of an external God. The law of entropy is only one expression of the modern conception of the immanence of law. But while the general direction of evolution is constant, individual variations and particular phenomena retard the progress toward the final goal. Thus in the solar system the dissipation of radiant energy is partially counteracted by the absorption of heat by the planets. A new problem is presented by organic life, but concerns only its origin. Once established, organic processes are entirely subject to mechanical laws and present no exception to the laws of conservation and entropy. A more fundamental objection to the principle of evolution is brought forward by Poincaré and Maxwell in the theorem of the phase. According to this, a limited mechanical system returns to a state similar to its initial state. The strength of this objection lies in the assumption of the limitation of the system. While this was implied in the theories of the ancients, it is not admitted by modern science. The principle of a constant direction in evolution becomes a particular case of the law of periodicity, corresponding to the modern assumption of the infinite extension of the universe. A transformation of scientific ideas would, of course, make possible a different conception of evolution.

GRACE MEAD ANDRUS.

#### PSYCHOLOGY.

*La simulation dans le caractère.* F. PAULHAN. Rev. Ph., XXVIII, 10, pp. 337-365; 11, pp. 495-527.

Simulation may be either voluntary or involuntary. In either case it may be set down as a general truth that its *raison d'être* lies in its utility, in the facilities it secures for attack and defense, for living and for self-development. The stupidity of observers insures its success quite as much as

does its own excellence. Simulations vary in delicacy, accuracy, and frequency, particular kinds predominating in particular sets of psychological and social conditions. Several of the different forms are examined, beginning with those of frankness and dissimulation. Frankness means several things: hatred of lies, a moral attitude, 'expansiveness,' etc. In ordinary social intercourse, it is contrasted with reserve. The effect of the two opposed attitudes on an observer will be determined very largely by his own temperament. The motive behind both is security. Each is a means of defense and may indicate little or much as to the real character. From simple reserve to elaborate hypocrisy there is an insensible transition. The former may be a matter of temperament merely or may involve voluntary concealment. From this the passage through hypocrisy to plain lying is very gradual, and involves so many factors that it can be traced, if at all, only with extreme difficulty. A strong aversion to open lying is quite consistent with a high degree of hypocrisy. Aversion to lying and a certain degree of 'expansiveness' are the characteristics of true frankness, the presence of the latter being generally supposed to involve the former; hence the ease with which frankness may be simulated. On the other hand, it is the 'expansive' person who instinctively simulates, while the reserved person reveals more nearly his true character. Expansiveness is, however, quite as often sincere as it is a mark of simulation. Simulation has a basis of sincerity, but the importance of this in the particular case cannot be determined. There is some truth at the bottom of every lie and no sincerity is entirely free from pretense. We are constantly forced to imitate others and the hypocrisy of politeness is a social necessity. Individuals differ here by reason of their differences in the intensity of feeling, in the power of certain tendencies, etc. Other forms of simulation group around such traits as naïveté, candor, and skepticism. The first two are due largely to a lack of mental equilibrium, to want of experience and reflection. Appearances correspond to very different realities and the external marks of naïveté may represent inexperience, ignorance, stupidity, natural simplicity, concentration, lack of self-confidence, etc. Any one of these traits may pass as naïveté, and the simulation is generally involuntary and only accidentally useful. Skepticism which has displaced an earlier naïveté simulates trustfulness. The skeptical attitude of mind seems fond of cloaking itself in a pretended confidence; and it is not wholly pretense, for in becoming skeptical the spirit remains to some extent naïve. Real and intense skepticism is often painful and seeks relief in the pretense of belief. The man who lacks confidence in himself pretends to a general suspicion to cloak his own weakness. The stress of social life leads the skeptic to simulate sincerity and confidence. Here, again, utility is the motive. Pride and modesty have very complex manifestations. Modesty is characterized by the tendency to undervalue one's self, and, in occasions for action, to retire into the background. The proud man may simulate modesty from an exaggerated notion of the value of that trait. Anything which prevents action

gives, in the absence of counter indications, an appearance of modesty. Laziness, egoism, indifference, desire for quiet, fear of compromising one's self, contempt for one's associates, some of which are very closely allied to pride, all give rise to simulations of modesty, for the most part involuntary. One may be very modest in certain respects and exceedingly proud in others; a very great pride may work as modesty because of a repugnance for self-assertion or fear of disapproval. Such motives as devotion to an idea or sense of duty may lead a modest man to involuntary simulation of pride. A false modesty is created by the demands of social life, conventional formulæ of politeness, etc. Timidity is generally accompanied by pride and frequently conceals itself under a simulated aggressive boldness. Simulation is part of the nature of the timid. It is one of a number of compensations which serve as means of defense. Simulation of impassivity, indifference, and modesty (involuntary), are common in the timid. Timidity has its source in a discord between the individual and his environment, and implies an inner discord as well. The simulation of other traits to hide this want of harmony is a means to safety. Weakness of will and cowardice, also, imply a want of harmony between individual and environment. They commonly simulate boldness, audacity, courage, and give rise to bragging and undue excitement in the presence of danger. Lack of self-control in thought and action are other symptoms. Social support and the habit of adaptation give the appearance of confident courage to the weak-willed, which is betrayed by any change of environment or social conditions. An unusually strong will simulates timidity at times through voluntary reserve. Mildness of disposition is a sign of a psychological mechanism that functions easily and regularly without disturbing influences. It is readily confused with goodness, which may or may not accompany it. It is frequently simulated by the weak-willed and timid. A strong will and violent passions may wear this same guise, but they usually assert themselves after a certain point, whereas the truly mild temperament preserves its inner harmony in the face of the most hostile circumstances. Craving for variety, contrast, and action may induce the mild to simulate harshness and rudeness. Want of foresight simulates generosity, affection, goodness, etc. It springs from a lack of coördination in the mental life, a weakness of the synthetic functions, and is readily confused with other characteristics having the same source. Generosity is often but a mask of selfishness. Prudence easily simulates harshness, selfishness, and indifference. Self-restraint may cloak violent passions and impulses with indifference, and they are the more enduring for the subjection. Simulation pervades all life. No one of our actions is quite unmistakable in its meaning. We can never be sure that they are the correct interpretation of the tendencies that produce them. Every manifestation of character is an occasion of illusion for the observer and is so far a simulation. It cannot be an absolute expression of the personality behind it. Not only the imperfection of the means of expression, but a constant warring of impulses within and the pressure of certain neces-



sary ties of social life from without tend to make simulation universal. All action is the result of a balancing of motives, and implies some degree of the tendency opposed to that which it directly expresses. The elements of every trait of character are mixed, and the feeling that determines an act is made up of antagonistic tendencies ; some of these are inevitably concealed, while others are over-emphasized. The very fact that simulation is universal, however, proves that it is never absolute. There is some basis in the real character for every simulated tendency ; we pretend to no characteristics that have not some place in our nature. Simulation exists only because there is no contradiction between the systems of acts, impressions, and ideas there formed and the real state of the subject ; it indicates a tendency of the mind to profit by its own weakness. The simulation of traits of character and the illusions of the observer tend to balance in the end. Simulation extends to deceiving not only others but ourselves. We are at great pains to convince ourselves that we possess the virtues and capacities that we most admire. We resort to various acts and attitudes for this purpose. Simulation is constantly changing in both quantity and quality, in epochs, in the sexes, and in individuals. On the whole, it seems to be on the decrease. Nevertheless, a certain amount of it seems inherent in all life.

C. E. GALLOWAY.

*A Sixteenth Century Psychologist, Bernardino Telesio.* J. L. MCINTYRE.  
Br. J. Ps., I, 1, pp. 161-177.

Telesio's great work, the *De rerum natura*, was published at Naples in 1586. The purpose of his system was to dislodge Aristotelianism from its dominant place in the philosophy of the period. The method which he advocated was empiricism, and his principle of inquiry was the uniformity of nature. Though Telesio affirms his complete acceptance of the Scriptures and the dogmas of the Church, yet the spirit of his philosophy was fundamentally naturalistic, and a few years after his death his books were placed upon the *Index*. For the explanation of nature, Telesio holds that there are two active principles, heat and cold, and a passive substrate through which the first two act. Heat and cold are endowed with sensation, and from their action in the bodies of animals consciousness arises. The mind is regarded as corporeal, a delicate and rarefied substance enclosed in the nervous system. Telesio explains, however, that man has another soul which is wholly divine and which acts through the natural soul. This is merely a theological admission and has no real connection with his theory. The natural soul of man differs from that of the brutes only in degree. Sensation is the basis of all mental life and results ultimately from the action of heat upon the mind stuff in the ventricles of the brain. The functions of the brain are : discrimination, retention, intelligence, organization of movements, and nutrition. Telesio's discussion of space perception is comparable to the empirical explanations given by the followers of Mill ; his explanation of intelligence, also, is roughly analogous to the position

of the associational psychologists. It is based upon resemblances observed between objects of sense. Tesio carries his naturalism into ethics also. The only end which man can pursue is his self-preservation, and therefore virtue and vice are intellectual merely. The influence of Tesio was felt mainly through Campanella and Bacon.

GEORGE H. SABINE.

### ETHICS.

*The Relations of Ethics to Metaphysics.* W. H. FAIRBROTHER. Mind, 49, pp. 38-53.

The question as to the relations of ethics and metaphysics may be put in two ways : (1) Are the ethical doctrines taught by the more important writers derived from their respective metaphysical beliefs ? Or (2) *in abstracto*, is the subject-matter of moral science of such a kind that it is necessarily affected by our belief as to the ultimate nature of man and the universe ? Taking up the first form, we may say with certainty that a great body of thinkers do base their ethics directly upon their metaphysics. Others are popularly regarded as reaching their ethical results by other roads than the metaphysical, especially Kant, Spencer, Mill, and the English moralists of the eighteenth century. But Kant's ethical and metaphysical doctrines are in reality completely interdependent ; it is the same reason which as self-determining is practical, and as determined is speculative, and the unconditioned causality which the former gives in moral freedom is necessary for the systematic unity demanded, but not supplied by the latter. Spencer states definitely that the object of moral science is to deduce from the laws of life and the conditions of existence what kinds of action tend to produce happiness. The popular impression that his ethics is independent of metaphysical ideas is caused by his careless use of utilitarian language. As for Mill, his utilitarianism is confessedly based on the belief that men desire nothing but happiness, that this is a collective happiness, and has a concrete intelligible nature. It is true that the English moralists of the eighteenth century employed no philosophical theories, but this was because their attention was confined to the facts of moral approval and disapproval, and epistemological difficulties were avoided by recourse to moral faculty or feeling. The truth in the contention that ethics is independent of metaphysics is simply that our knowledge of ultimate reality is not yet complete enough to enable us to deduce an answer for every particular problem of detail. We must have a moral code, yet such a code cannot be entirely haphazard. Ethical theory must be in some way coördinated with speculative, since both deal with the same universe.

EDMUND H. HOLLANDS.

*La morale de Renouvier.* A. DARLU. Rev. de Mét., XII, 1, pp. 1-18.

The lack of clear exposition in Renouvier's *Science de la morale* has caused its importance to be overlooked. Though some of its problems

are now obsolete, others are of great importance. The work was inspired by the French Revolution. As a disciple of Kant who had also felt the effect of the struggle, he adopted Kant's ethical principle and made it the basis of his work, the principle that ethical science is distinct, not only from religion and metaphysics, but also from natural and social science. Conscience is the supreme datum. Renouvier's doctrine is individualistic and personality is the basis of his philosophy. Social relations exist only between individuals. Public morality is not distinct from private morality, and state institutions are but extensions of private relationships. Liberty is the starting-point of individual and social progress. The ideal state of humanity would mean a state of peace wherein autonomous nations were in harmonious association. Social liberty is measured by the amount of individual liberty, and the multiplication of free institutions means progress. Justice arises by the recognition of the validity of contracts. Opposed to self-interest, it becomes the consciousness of obligation, the supreme principle of practical morality, and the basis of social institutions. In applying moral laws to social needs, morality should make apparent the changes which social rights and duties undergo. Man's first duty is self-preservation. In the clash of desires incident upon satisfaction of personal interests, a state of war results, the temper of which still lingers in the industrial and moral world. Ethical questions resolve themselves into economic ones. Morality condemns as unjust the unequal distribution of wealth, and amelioration of conditions is to be secured by giving to labor a share in the wealth produced proportionate to the time and effort spent in its production, rather than in accordance with the law of supply and demand. Social reform is possible only through free association and mutual concession. Warfare and militarism are condemned as the source of social corruption. Permanent peace between states is possible only if there be a deeply pacific moral purpose within them. The socialistic ideas of peace, justice, and industry are the steps towards progress, the end of which is state autonomy and personal independence. Though overemphasizing individualism, Renouvier produced an ethical doctrine clear and consistent, and founded upon equity, justice, and peace.

FRANK P. BUSSELL.

*La démocratie devant la science.* BOUGLÈ. Rev. de Mét., XII, 1, pp. 57-73.

Science affirms that the spirit of democracy is opposed to the biological laws of nature, and hence must ultimately fail. In answer we may say that, though theoretically rigid, the laws of heredity, differentiation, and competition, are really not without exceptions. Democracy promotes social well-being by obeying the law of heredity. By diminishing arbitrary inequalities it aids competition, and by division of labor gives completer differentiation and development to human powers. But social evolution is different in nature from biological. Unrestricted competition is not suffi-

cient here. Personal rights and social ties must be safeguarded by assuring to each a share in the collective wealth. Democracy transcends the laws of biological evolution, applying them to its use but not being affected by them. Its goal is the attainment of a higher realm of being, the perfection of spiritual personality. Here the scientific judgment is inadequate either to determine the desirable or fix the limits of the attainable. A sense of the supreme worth of human life makes necessary measures which are opposed to the suffering incident upon natural survival through competition; and such a feeling for humanity is not amenable to judgment in the court of science. Biological analogy is inapplicable. Human societies must be subjected to historical comparison and analysis, and the sociological laws found to obtain must be made the basis of morality. By these laws also should democracy be judged, and its tendency to promote human weal or woe determined. The validity of the findings of social science will depend upon the recognition of individualism coexisting with a social spirit. These are indispensable, if democracy is to continue; and there is likewise need of humanizing culture and the rational choice of ends in accord with the supreme end as revealed by moral philosophy. Though the conclusions of science are unsatisfactory, and though we cannot yet foresee the results which sociological science may bring about, there is nevertheless no reason to believe that it will prove otherwise than encouraging.

F. P. BUSSELL.

#### HISTORY OF PHILOSOPHY.

*Le naturalisme Aristotelicien.* CLODIUS PIAT. A. f. G. Ph., IX, 4, pp. 530-544.

M. Piat describes the philosophical movement from the supernaturalism of Plato to the naturalism and theory of immanency of Aristotle and the Aristotelians. In the philosophy of Strato, the doctrine of immanence is carried to its logical issue, and the transcendency of a divine First Cause and of a Creative Reason is characterized as a metaphysical illusion. Aristotle had advanced a theory of nature in which there was no room for the idea of God as "pure form," and in the historical development of the school the idea was explicitly excluded.

W. A. H.

*Senecas Ansichten von der Verfassung des Staates.* J. BREUER. A. f. G. Ph., IX, 4, pp. 515-529.

This article is an attempt to defend Seneca's political philosophy against Rubins's charges of inconsistency and inconstancy. Breuer points out that Seneca's praise of Cato was part of the fashion of the time, and that this praise does not refer to Cato's republicanism, but to his character. It was common custom to rank Cato for his moral grandeur with Socrates and Rutilius. Further, Seneca's censure of Cæsar and Pompey is not a con-

demnation of their imperialistic ideas, but of the ethical character of their lives and policies. Seneca gives emphatic expression in the *De clem.* to his conviction that monarchy is necessary for the Roman empire of his day, although he nowhere says that monarchy regarded absolutely is better than a republican form of government. On the contrary, the conclusion may be drawn from *De clem.* that, under ideal conditions, a republic which guarantees to the people the maximum of freedom is absolutely the best constitution. The decline, however, of the ancient morality and simplicity makes Rome's ancient republican liberty politically impracticable, and it is no evidence of contradiction or inconstancy when Seneca, as a sober, practical statesman, with his eye fixed on the civic needs of his time, declares the republican constitution to be unsuited to the conditions.

W. A. H.

*Spinoza's demokratische Gesinnung und sein Verhältnis zum Christentum.* W. MEIJER. A. f. G. Ph., IX, 4, pp. 455-485.

The author of this article in a former essay, *Wie sich Spinoza zu den Kollegianten verhielt* (*Archiv*, October, 1901), criticised adversely Menzel's statement that Spinoza's democratic sympathies were derived from the Arminians, and that his conversion to aristocracy was due to revulsion at the murder of De Witt. He here defends his position, and undertakes to prove from the *Tract. polit.*, *Tract. theol. polit.*, and from the life and letters of Spinoza, that Spinoza's political views never really changed, and that he considered democracy (*Tract. polit.*, XI, ii), not ochlocracy, to be a securer and better form of government than aristocracy. Further, in regard to Spinoza's relation to Christianity, the author undertakes to show that Christianity and Spinozism are incompatible. Not only is the one dualistic and the other monistic, but Spinoza explicitly denies the two central dogmas in Christianity, viz., the doctrine of the resurrection and the sonship of Christ (*Letters* 72, 73). He denies also the creation of the world, the immortality of the soul, the existence of sin and the devil, the biblical attributes of God, and the historical truth of miracles.

W. A. H.

*'Naïv' und 'Sentimentalisch' — 'Klassisch' und 'Romantisch.'* BRUNO BAUCH. A. f. G. Ph., IX, 4, pp. 486-514.

The author discusses the historical parallel between the æsthetic terms 'naïve' and 'sentimental' (Schiller), on the one hand, and 'classical' and 'romantic' (the Hegelians), on the other. For Schiller as for Vischer, there is an antithesis between ancient and modern art. The former art is naïve and realistic; the latter critical and reflective. Schiller applies the term 'naïve' to the former, and 'sentimental' to the latter. Vischer characterizes them as 'classical' and 'romantic.' Naïveté in art is the treatment of an object purely as nature. Schiller's unity of 'sense' and 'reason,' 'nature' and 'spirit,' are the equivalent of Hegel's unity of

'corporeality' and 'significance,' of 'phenomenon' and 'idea;' and Hegel's conception of the classical and Schiller's conception of the naïve are one. The poet in his art is placed between two principles: reality, on the one hand, and idea, on the other. The character of the poet's art is determined by the ascendancy of one or the other of these two principles, and the two feeling-modes of the sentimental (*i. e.*, romantic or modern) poet are satire and elegy. The satirical represents the incongruity of real and ideal, and the elegiac feeling-mode characterizes the poet whose satisfaction in the ideal outweighs his consciousness of the real. Although for Hegel nothing is more *beautiful* than the classic art, yet it is a *higher* form that exhibits the return of the spirit upon itself ('das Zurückgehen des Geistes auf sich selbst'), which is the mark of romanticism, or of sentimentalism in the terminology of Schiller. In this sense, the romanticism of Hegel and the sentimentalism of Schiller are one. Schiller's sentimentalism has nothing to do with that aspect of romanticism, which Hegel characterized as fantastic and quixotic. W. A. H.

## NOTICES OF NEW BOOKS.

*An Introductory Study of Ethics.* By WARNER FITE. London and Bombay, Longmans, Green, & Company, 1903.—pp. vi, 383.

In defining the scope of his subject, Mr. Fite says that ethics is a study of practical life in its more general aspects ; and the plan of his book is evidently determined by the conviction that theory is for the sake of practice, and by the desire to get behind the antagonisms of ethical theories to some agreement or compromise which can serve the purpose of practical guidance. He starts from the fact that there is a contradiction between the ideal and the practical, and between the interests of humanity and those of self. This fact gives rise to two fundamentally different types of ethical theory, viz., hedonism, which represents the claims of material needs and self interest ; and idealism, representing the claims of ideal and disinterested aims (pp. 6, 29-33).

Although the same dualistic classification is reached in another way by tracing back ethical theories to their roots in one or the other of two divergent philosophies (p. 17), I think that the practical aim is fundamental in controlling Mr. Fite's arrangement of material ; and this is also its best justification, since it is doubtless true that from the practical point of view, — the standpoint of tendency, of moral attitude, — hedonism and idealism may be said roughly to correspond to the well recognized Epicurean and Stoical attitudes toward life. If we must describe the otiose and the strenuous moral attitudes in philosophical language, the words hedonism and idealism are perhaps accurate enough for popular and practical purposes, though it seems to me that the moral attitude of a conscientious universalistic hedonist of the Sidgwick type is more properly described as Stoical than as Epicurean ; and Mill, whether consistently or not, would certainly make the claim for his own system that, like Stoicism, it preaches a morality of self-devotion and sacrifice. No objection, however, need be taken to Mr. Fite's dualistic classification of ethical theories ; since it is true that all types of ethical theory can be ultimately reduced to varieties of the view that pleasure is the supreme good, or of the view that virtue or perfection of character is the good.

And yet, in spite of the author's simplicity of outlines and clearness of style, I am afraid that 'thoughtful persons' who are not moral philosophers, and college 'students beginning the study,' will be rather confused, if not misled, by Mr. Fite's too simple classification and loose exposition of rival theories. In failing to act upon the familiar adage of giving the devil his due, he has done violence to the history of ethical opinion, and has set up an idol of his own manufacture as the typical deity of hedonism. Hence, I say, to at least one class of readers to whom the volume is ad-

dressed, — those who are not very familiar with ethical problems, — Mr. Fite's presentations may well prove rather confusing. They will learn in the first place that by 'pleasure' the hedonist means the pleasures of sense, sensuous gratification; that intellectual pleasures as such are an illusion; that the pursuit of knowledge is simply a more refined way of seeking sensuous pleasure (Chap. III); and then they will perhaps quite logically conclude that though Aristippus and Helvetius may have been hedonists, Epicurus and Mill and Sidgwick certainly were not. They may think at first that even Bentham was not a hedonist, because he held that, provided the quantity of pleasure is the same, poetry is as good as push-pin, — *i. e.*, he regarded the source of the pleasure as a matter of indifference, and did not confine pleasure to the sphere of the senses; but they will soon learn (p. 50) that reading poetry *is* ultimately sensuous pleasure, since its only real value is in contributing to material needs and physical welfare.

They will learn further that to the hedonist happiness and freedom from pain constitute ultimately our sole object of desire; that we are never interested in others for their own sake, or in any object for its own sake; that all our actions are directed toward the enjoyment of sensuous pleasure; that each of us is actuated solely by self-interest, — that is, by the demands of the bodily self (pp. 86, 225); but they will fail to find any clear distinction between psychological and ethical or rational hedonism, or between the egoistic and the universalistic forms of the pleasure theory. Sidgwick will be a puzzle to them, and Leslie Stephen will be classed as an idealist, since idealists, according to Mr. Fite, have a monopoly of the conception of society as an organism.

Again, the reader will learn that the hedonistic theory may be regarded as a mechanical view of conduct; that the general opposition between hedonism and idealism rests upon the distinction between mechanical and conscious action; that for hedonism the human being is a machine; that to the hedonist *and* materialist nothing but the individual atom is absolutely and permanently self-identical; that the hedonistic point of view is that of external observation; that it denies personal identity and purposive activity; that the self of hedonism is the human body; that a state of feeling is pleasurable to the extent that effort is absent; that the quintessence of pleasure is the languorous dreamy state pictured in the Oriental paradise; that in relation to practice hedonism tells us to conform to the world of mechanical forces, since no effort of ours can modify conditions so as to make them more conformable to ideal ends (pp. 95, 111, 192, 203, 209, 290, 324). In short, hedonism regards man as a conscious automaton irresistibly seeking (if, indeed, he can be said to *seek* anything) sensuous gratification. The reader would be obliged to conclude that the hedonist is necessarily a materialist, and that the general happiness is not regarded by any as an ideal end; and he would be at a loss to explain the inconsistency of the English utilitarians in their effort to improve social conditions



as a means to the greater happiness of mankind, — or else he would decide that they were not hedonists, but idealists.

Space does not permit me to touch upon Mr. Fite's discussion of idealism, or his method of solving practical moral problems by a compromising diagonal between hedonism and idealism; but perhaps enough has been said to justify the opinion that if, instead of attempting to reconstruct the situation as a whole, from the standpoint of philosophical consistency, he had more closely adhered to his original intention of furnishing a definition and analysis of the several types of ethical theory as actually held, he would have written a less vulnerable book. I agree with Mr. Fite that ethics cannot remain permanently divorced from metaphysics, and that there is a logical connection between the moralist's general philosophical attitude and his ethical position; but in forcing the views of the hedonist to what he regards as their logical implications, in identifying them with a mechanical philosophy, an associational psychology, a Lamarckian biology, and a sensualistic view of pleasure, — and in identifying idealism with the antithesis of all this, — he is stating what he thinks should be the logical position of hedonists and idealists respectively, but he is also giving a very inaccurate and misleading presentation of the facts; and this because he has chosen to present hedonism as of a single stereotyped form, while the word idealism is regarded as broad enough to include everything except the crassest form of egoistic hedonism.

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*The Nature of Man: Studies in Optimistic Philosophy.* By ÉLIE METCHNIKOFF. Translation by P. CHALMERS MITCHELL. New York and London, G. P. Putnam's Sons, 1903.—pp. xvi, 309.

M. Metchnikoff's enquiry is essentially teleological. He investigates the nature of man for the sole purpose of describing and evaluating the natural end of human life. The thesis, which embodies the author's biological convictions and determines the argument of his book, is that certain fundamental disharmonies exist between the human organism and its environment. Because of these disharmonies man is unable to accomplish satisfactorily the round of his existence and stumbles along through many ills to an unsatisfactory end. Self-consciousness reveals to man and intensifies the evils which disharmony originates. As a first reaction, man confuses the disharmony with the total life process and conceives of life here and now as evil. The whole, however, asserts its preëminence over the parts and brings about a second reaction, viz., the thought of a future life in which evil shall be removed and happiness attained. Thus arise religion and philosophy, the one a blind faith in immortality as a palliative for human ills, the other a reflective promulgation of the same error. Philosophy refutes religion and in turn resolves itself into negation. It thus prepares the way for the true solution of life's problem by the exact and ob-

jective methods of science. Before proceeding to indicate what science has to say by way of positive construction, Metchnikoff applies his criticism of religion and philosophy to pessimism and optimism. Both religion and positive philosophy regard this present life as evil, but a future life as good. They are pessimistic as to present existence, but optimistic as to the life beyond the grave. The sceptical form of philosophy, to which a larger knowledge and the exact methods of science inevitably lead, destroys the optimistic outlook and brings man face to face with present life and that which scepticism takes to be the truth, viz., pessimism. Mankind, accordingly, appears to be placed in the following dilemma. Either cast aside reason and assuage the evils and sorrows of existence by passive endurance now and ungrounded hopes for the future, or follow reason, abjure will-o'-the-wisp beliefs, and endure without hope a meaningless and miserable existence. Science, however, frees man from the dilemma by cutting beneath it. Pessimism recognizes the disharmonies of life, but stands helpless before them. Optimism also recognizes the facts of disharmony, stands blindly before them, and is carried away, by the inner impulse of the desire to live, to inadequate and unintelligent conclusions. Science recognizes both the essential evils of human life and the dominant desire of man to overtop them. But it neither stands helplessly before them nor flies to impossible conclusions. It seeks to understand the character and origin of the evil as also to take practical measures for its removal. Viewed scientifically, evil has its origin in disharmony between the physical organism of man and his environment. This is accounted for by man's peculiar development. For man must be regarded in some senses as a monster. Arising as a sport in the biological world, his origin was probably sudden after the fashion of species whose possibility was foreseen by Darwin, but whose actuality was first demonstrated by De Vries. Man's variation consisted essentially in "a brain of abnormal size, placed in a spacious cranium." This variation enabled him to outdistance other forms of life, and laid the foundations of his wonderful historical development. The sudden advantage was at the same time a disadvantage. It too quickly put out of use certain structures of man's physical organism, and gave opportunity for a greatly enlarged exercise of function on the part of structures inadequately developed to their freer and more complex use. Once man has come to appreciate this fact, his life problem ceases to be a useless worrying over the actual fact of disharmony or a soothing of his pain by senseless palliatives which do not relieve. It becomes an active, aggressive campaign, the possibilities of which Pasteur has so brilliantly illustrated.

There remains, however, the final fact of death. How can science meet that fact and the stubborn development of the instinct to live? They appear to stand in irreconcilable antagonism. The difficulty cannot be resolved by the thought of a continuance of life after death. The fact that mind is a function of a physical organism, which inevitably decays and disintegrates, effectively disposes of any such conception. Science can accom-

plish two things. By studying the processes of repair it can prolong life, and by steady adherence to its own doctrine of ultimate dissolution it can restrain and ultimately remove the fear of death.

In criticism of the volume, little need be said. M. Metchnikoff has thrown a great light upon the origin of evil and the rational method of its treatment. It appears to the reviewer that Metchnikoff has found the nerve of the difficulty common to pessimism and optimism and their corresponding factors in religion and philosophy. That his treatment of religion and philosophy is one-sided and utterly inadequate, must be apparent to any one seriously acquainted with either. But this should not blind the reader to the fact that the author finds the origin and solution of the problem of evil *within the life process itself*. This in itself is a tremendous gain and puts the problem upon a firm and sure foundation. Agreement or dissent from M. Metchnikoff's positivism is entirely a secondary consideration.

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*La poétique de Schiller.* Par VICTOR BASCH. Paris, Félix Alcan, 1902. — pp. 297.

The author of this able book first discusses the sources from which Schiller's theory of poetry springs, and finds them especially in the Kantian philosophy, in Winckelmann's conception of Greek art, in Herder's doctrine of the poetry of nature and the poetry of art, and in the artistic practice of Goethe. Then, after outlining the great poet's general theory of æsthetics, he makes a careful analysis of Schiller's theory of poetry as it is set forth in his treatise on naïve and sentimental poetry, his works on dramatic poetry, and his correspondence with Körner, Wilhelm von Humboldt, and Goethe.

In conclusion, he subjects the principal theories of Schiller to a thorough criticism. Professor Basch shows first that the method employed is the *a priori* method, and rejects it. Poetics, like all the æsthetic sciences, is for him an *explicative* and not a *normative* science, and as such its method must be psychological, historical, comparative, classificatory, and genetic. Schiller bases his theory not on concepts derived inductively, but on logical concepts, concepts deduced from the concept of humanity, and his whole system consequently lacks reality. It is *necessary*, he declares, that poetry in general, as the perfect expression of humanity, be divided into naïve and sentimental poetry, and sentimental poetry into satirical, elegiac, and idyllic poetry. Schiller believes that sense and reason were originally in harmony in man, that the emotional, intellectual, and moral natures acted in unison, and that the naïve poet embodied this harmony. As civilization advances, he proceeds to tell us, a division occurs between the intellectual nature and the senses, the will becomes conscious of itself and rebels against the demands of the desires, opposing to them the imperative of duty. The

sentimental poet represents this stage. The harmony will finally be re-established, the senses will not demand more than the reason prescribes, the unconscious harmony of primitive man will become the conscious harmony of the civilized man. The ideal poet will give expression to this stage.

Professor Basch refuses to believe that primitive men are the perfect, serene, and harmonious beings that Schiller imagines them to be. Besides, among the naïve beings, as Schiller defines them, the intellectual faculties proper have not yet been developed, and cannot therefore enter into relations of harmony or discord with the senses. It is also a mistake to call the Greeks naïve beings. Moreover, sense and reason are not separated by an impassable chasm, as Schiller and Kant would have it, but the intellectual faculties cannot be conceived without the faculties of sense; the psychical forces constitute an organism in which every organ works for a common end. Schiller also fails to give a satisfactory definition of the concept of nature, which plays such a fundamental rôle in his theory.

Although neither the method, nor the premises, nor the conclusions of Schiller's poetics have any real value, Professor Basch admits that the problems which the poet raised deserve attention, and recognizes the speculative depth, the dialectical vigor and subtlety, and the eloquence which he brought to his task. Besides, the influence exercised by him on the development of literature, æsthetics, philosophy, and literary history was immense. Whatever may be our objections to Schiller's theory, it must be confessed that from his treatise on naïve and sentimental poetry dates a new era. Without this work we should not have had the critical writings of Friedrich Schlegel nor the *Æsthetics* of Hegel.

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*St. Anselm's Proslogium, Monologium, an Appendix in Behalf of the Fool by Gaunilon, and Cur Deus Homo.* Translated from the Latin by SIDNEY NORTON DEANE. Chicago, The Open Court Publishing Co., 1903.—pp. xxxv, 288.

The Latin of the father of orthodox scholasticism is, like that of most of the schoolmen, easy to read, but all but impossible to translate. Neither the niceties nor the characteristic ambiguities of the scholastic terminology can be easily reproduced in such a language as English. Any translation, therefore, is likely to be a poor substitute for the original; and for most of those who are competent to study such a philosopher as Anselm a translation should also be a superfluity. Yet the publishers of this volume have done a useful thing in giving us a modern English version of Anselm's most important philosophical writings; it is singular that the thing has not been done long since. The ontological argument is so much talked about, even in elementary philosophical teaching, that the text of it should be made accessible to all students and to the general reader. Anselm's *Cur Deus homo* has been available since 1855 in the translation of J. G. Vose;

that translation is reprinted in the present volume. But the *Monologium* and *Proslogium* apparently receive their first presentation in English in Mr. Deane's rendering. The translation, to judge from a number of selected passages, is painstaking and for the most part fairly trustworthy. Curiously, the translator has been least happy in his handling of the opening chapter of the *Monologium* (pp. 35-37). In the very first sentence *essentia divinitatis* is inexcusably rendered "the being of God," — with the effect of obscuring the contrast between the theme of the *Proslogium* (which treats *de Dei existentia*) and that of the *Monologium*, which is primarily a meditation on the divine nature and attributes. In the next sentence, the translator mistakes the antecedent of a pronoun; instead of "nothing in Scripture should be urged on the authority of Scripture itself," read "nothing in this meditation should be urged on the authority of Scripture." Later in the same chapter, Mr. Deane omits to translate the words *ut quidquid facerem illis solis a quibus exigebatur esset notum et*, and thereby makes Anselm say rather absurdly: "I was led to this undertaking in the hope that whatever I might accomplish would soon be overwhelmed with contempt." Similar errors occur occasionally, but less frequently, in other passages. In *Monol. XV*, Anselm's peculiar antithesis of *ipsum* and *non ipsum* (*melius ipsum esse ac non ipsum*) is rather misleadingly rendered "to be it is better than not to be it"; the sense is simply "it is better than anything not-itself." The translator has a singular fashion of rendering *omnino* (which assumes almost a technical sense in the schoolmen) by "in general," (*e. g.*, "what is, in general, better"); it means, of course, just the opposite, *i. e.*, "absolutely." In Gaunilon's *Liber pro insipiente*, the sense of § 2 pretty completely disappears in the translation. These occasional failures limit, but do not destroy, the general serviceableness of the volume for the English reader.

Dr. Carus has prefixed to the translation Weber's summary of Anselm's system (a poor summary so far as the ontological argument is concerned), and comments or criticisms on the ontological argument from Descartes, Spinoza, Locke, Leibniz, Kant, Hegel, Dörner, Lotze, and Professor Flint. It would have been well to include with these one or two passages,—*e. g.*, Aquinas, *Summa* I, q. 2, a. 1, 2, and a chapter from Father Boedder's *Natural Theology*,—expressing the negative attitude of later and present-day scholasticism towards Anselm's argument.

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*The Philosophy of Hobbes*, in Extracts and Notes collected from his Writings. By FREDERICK J. E. WOODBRIDGE. Minneapolis, The H. W. Wilson Co., 1903. — pp. xxxiv, 391.

Professor Woodbridge has rightly felt that a compact and inexpensive volume of selections from the English writings of Hobbes, in which the whole system of the philosopher of Malmesbury should be set forth briefly

in his own words, would meet a genuine need. The non-political parts of Hobbes's system have not hitherto been very easily accessible to college students or to the general reader; yet no philosopher is better qualified to speak for himself, instead of reaching his readers through the medium of second-hand expositions. The present volume brings together, from the Molesworth edition, the first six chapters of the English version of the *De corpore*; the important second chapter of the *Human Nature*; Chapters I–III of the *De cive* (*Philosophical Rudiments concerning Government*); a fragment of the little treatise on *Liberty and Necessity*; and the greater part of Chapters I–XVIII, XXXI, and XLIII from the *Leviathan*. In footnotes, brief citations of parallel passages from other writings are given. The volume contains a portrait of Hobbes and a (rather bad) reproduction of the frontispiece to the first edition of the *Leviathan*. Aubrey's delightful little life of Hobbes is prefixed to the selections. There are no notes and no introduction, the editor desiring to leave the reader "an immediate and uncolored impression of the author." Certainly Hobbes has small need of explanatory aids.

The execution of the compiler's task gives some occasion for criticism. The selection of passages for inclusion is far from felicitous. Hobbes's "First Philosophy," with his fundamental conception of motion as the principle of all things and his typical attempt at a mechanistic cosmology,—one of the more important and less accessible parts of the system,—is wholly unrepresented; while nearly two-thirds of the volume are given up to the *Leviathan*, of which several cheap and convenient editions already exist. Yet, if the *Leviathan* was to be included, it is not clear why so important a part of that book as Chapter XXI ("On the Liberty of Subjects") was (except for a few unessential sentences in a footnote) left out. There are few things in Hobbes more curious than the limitations which, in that chapter, he puts upon the obligation of the subject to obey the sovereign. Similarly Chapters XXVI and XXIX ought to have been included. The reader should have been warned that the English version of the *De corpore* is not from Hobbes's own hand, and that it is marred by occasional omissions and mistranslations. The editor might at least have been expected to correct the radical inversion of the sense at the beginning of § 13 of Chapter VI (pp. 65 f.), since the error has already been pointed out by Robertson. At p. 161 *n.* Molesworth's mangled and meaningless printing of Hobbes's classification of voluntary and involuntary actions is reproduced, in spite of the fact that Robertson has established the correct text (*Hobbes*, p. 234 *n.*). In fine, what we did not greatly need,—an incomplete reprint of the *Leviathan*,—has been given us; what we did need,—a selection of representative passages covering the whole range of Hobbes's theoretical philosophy, carefully edited, with corrections of the errors of earlier editions,—has been given us only in very small part. For that part, however, we may be grateful.

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*Nietzsches Philosophie.* Von ARTHUR DREWS. Heidelberg, Carl Winter's Universitätsbuchhandlung, 1904.—pp. viii, 561.

Dr. Drews regards Nietzsche and his philosophy as a striking instance of the theoretical and practical ruin resulting from the prevailing tendency to identify consciousness and being or existence. Like Descartes and Kant too, for that matter, the philosophers of to-day assume the validity of *cogito ergo sum* and make it the basis of their various systems. Such an assumption is without foundation and even patently false, and only through the recognition of a reason other than individual in that it is absolute, can philosophy hope to escape inherent contradiction. With the rest Nietzsche endeavored to explain being directly from his own subjective consciousness, the essence of which he regarded as the empirical will. He identified the true culture with the struggle to obtain complete inner and outer freedom for this individual ego, and his entire philosophy is an attempt to describe the nature and the essential conditions of such freedom. In the prosecution of his task he fell into countless absurdities, which are themselves instructive because they are due to the falsity of the original premise. The pathos of Nietzsche's personality lies in the earnestness with which he lived out his convictions, and his sad fate exhibits the practical futility of his views just as the impossible statements in his books show their theoretical absurdity. If carried to its logical consequences, every attempt to attain freedom for the individual apart from the absolute self must end, as his did, in unconsciousness.

However one regards this view of the nature of Nietzsche's fundamental error, the account of his life and philosophy in which it is set forth must be admitted to be complete and in most respects satisfactory. The criticism of the particular theories is often suggestive even where one is compelled to disagree with the writer's interpretation. The great fault of the book is its length. All that is essential in it could easily have been contained in one-third the present number of pages, and such compression into a volume of reasonable size would have added greatly to its attractiveness and value.

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*Freedom and Responsibility.* By ARTHUR TWINING HADLEY. New York, Charles Scribner's Sons, 1903.—pp. 174.

President Hadley's Yale Lectures on The Responsibilities of Citizenship bear the full title of *The Relations between Freedom and Responsibility in the Evolution of Democratic Government*. The book is thus not what its abbreviated title might imply, and what some passages in it would suggest, a treatise in philosophy; but a study in the field of the history of social institutions with what the preacher would call an 'application' to current conditions in the United States. As such, it contains wholesome doctrine which deserves the approval the lectures, as delivered, received at the hands of the public press.

Freedom, Dr. Hadley holds, is not an inherent human right. Its historic development and its essential nature indicate that it has come into being and can be exercised only in the presence of restraints and sanctions. It can be safely exercised in democratic government only where the ethical sense of responsibility has led to the capacity of *self* restraint. A *laissez faire*, selfish individualism will not bear the fruits of a true freedom. This conclusion that political freedom should be exercised only where there has been training in responsibility is worth emphasis at the present time, as well as its necessary corollary that where by training the sense of responsibility has been produced, there freedom should be allowed.

The effort to show that "freedom of the will is an institution rather than a metaphysical conception," and that the "historical explanation of the idea of free will is more satisfactory than the psychological explanation" (p. 70), rests on the common enough confusion current as regards the meaning of freedom of the will, which disregards the distinction between freedom as the capacity of self-direction towards an ideal, and freedom as the right to shape conduct with reference to any freely chosen ideal,—between choosing one's ends and doing what one wants to. One view considers freedom as a psychological necessity or a metaphysical reality; the other regards it as a social and political right. The two points of view are not mutually exclusive. In fact, it is only as the former is presupposed that the latter presents any problem but one in mechanics.

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The following books also have been received :

*Man's Place in the Universe.* By ALFRED R. WALLACE. New York, McClure, Phillips, & Co., 1904. — pp. viii, 326.

*Elements of Metaphysics.* By A. E. TAYLOR. London, Methuen & Co., 1903. — pp. xvi, 419. 10s. 6d.

*The Grand Survival: A Theory of Immortality by Natural Law.* By OSWALD STOLL. London, Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1904. — pp. 202. 3s.

*Kant's Educational Theory.* By EDWARD F. BUCHNER. Philadelphia and London, J. B. Lippincott & Co., 1904. — pp. xvi, 309.

*Columbia University Contributions to Philosophy, Psychology, and Education, Vol. X, No. 2: The Free-Will Problem in Modern Thought.* By WM. H. JOHNSON. New York, The Macmillan Co., 1903. — pp. 94. 75 cents.

*The Same, Vol. XI. No. 2: Heredity, Correlation, and Sex Differences in School Abilities.* Edited by EDWARD L. THORNDYKE. New York, The Macmillan Co., 1903. — pp. 60. 75 cents.

*University Studies Published by the University of Nebraska, Vol. IV, No. 1. I. The Kinetic Theory of Economic Crises.* By W. G. L. TAY-



LOR; II. *Validity of the Ergograph as a Measurer of Work Capacity.* By T. L. BOLTON and E. T. MILLER. Lincoln, Neb., 1904. — pp. 150. \$1.00.

*The Heart of Ethics.* By GEORGE H. PALMER. Berkeley, Cal., The University Press, 1903. — pp. 20.

*Geschichte der griechischen Philosophie.* Von A. DÖRING. Zwei Bände. Leipzig, O. R. Reisland, 1903. — pp. xi, 670; vi, 585. M. 20; Gb. M. 22.40.

*Historische Untersuchungen über Kants Prolegomena.* Von BENNO ERDMANN. Halle a. S., M. Niemeyer, 1904. — pp. vii, 144. M. 3.60.

*Naturbetrachtung und Naturerkenntnis im Altertum.* Von. FR. STRUNZ. Hamburg und Leipzig, L. Voss, 1904. — pp. 168.

*Friedrich Nietzsche: Darstellung und Kritik.* Von J. J. HOLLITSCHER. Wien und Leipzig, W. Braumüller, 1904. — pp. 270. M. 5.

*Die Realität der Gottesidee.* Von GUSTAV CLASS. München, C. H. Beck. 1904. — pp. 94. M. 2.

*Ideen zu einer jesuzentrischen Weltreligion.* Von KARL ANDRESEN. Zweite umgearbeitete Auflage. Leipzig, Lotus-Verlag, 1904. — pp. viii, 373.

*Wissen und Glauben.* Sechzehn Vorträge von C. GÜTTLER. Zweite Auflage, München, C. H. Beck, 1904. — pp. vii, 210. M. 3. Gb. M. 4.

*Leibnizens Apriorismus im Verhältnis zu seiner Metaphysik.* Von A. SILBERSTEIN. Berlin, Mayer und Müller, 1904. — pp. 74. M. 1.60.

*Egoismus und Altruismus als Grundlage des Sittlichen.* Von G. KUTNA. Berlin, Mayer und Müller, 1903. — pp. 108. M. 2.

*Les théories socialistes au XIX<sup>e</sup> siècle.* Par E. FOURNIÈRE. Paris, F. Alcan, 1904. — pp. xxxi, 415. 7 fr. 50.

*Le sentiment du beau et le sentiment poétique.* Par MARCEL BRAUNSCHVIG. Paris, F. Alcan, 1904. — pp. 240. 3 fr. 75.

*La parole intérieure.* Par VICTOR EGGER. Paris, F. Alcan, 1904. — pp. vii, 326.

*Combat pour l'individu.* Par GEORGES PALANTE. Paris, F. Alcan. — 1904. — pp. 231. 3 fr. 75.

*L'absolu, forme pathologique et normale des sentiments.* Par L. DUGAS, Paris, F. Alcan, 1904. — pp. 181. 2 fr. 50.

*La philosophie ancienne et la critique historique.* Par CHARLES WADINGTON. Paris, Librairie Hachette et Cie., 1904. — pp. xvi, 388.

*Descartes, directeur spirituel: correspondance avec la Princesse Palatine et la Reine Christine de Suède.* Par VICTOR DE SWARTE. Paris, F. Alcan, 1904. — pp. iii, 292.

*Notes sur l'histoire générale des sciences.* Par LOUIS FAVRE. Paris, Schleicher, Frères et Cie., 1904. — pp. 131. 2 fr.

## NOTES.

Professor Frank Thilly of the University of Missouri has accepted a call to the Stuart professorship in Psychology in Princeton University.

Professor Geo. M. Stratton of the University of California has been appointed Professor of Experimental Psychology in the Johns Hopkins University.

The fourth annual meeting of the Western Philosophical Association was held on April 1 and 2, at the University of Missouri, Columbia, Mo. The following officers were elected for the ensuing year: President, Professor A. Ross Hill, University of Missouri; Vice-President, Professor E. L. Hinman, University of Nebraska; Secretary and Treasurer, Professor A. O. Lovejoy, Washington University; additional Members of Executive Committee, Dr. H. W. Stuart, University of Iowa, and Professor F. C. Sharp, University of Wisconsin. A full report of the proceedings will be published in the next issue of the REVIEW.

The Southern Society for Philosophy and Psychology was organized February 23 in Atlanta, Ga. Its officers are: President, Professor J. Mark Baldwin, Johns Hopkins University; Secretary, Professor Edward Franklin Buchner, University of Alabama; Council, the President, Secretary, and Dr. William T. Harris, Washington, D. C., Mr. Reuben Post Halleck, Louisville, Ky., and Professor A. Casewell Ellis, University of Texas. The aim of the organization is to promote the welfare of philosophy and psychology in southern institutions.

A meeting of experimental psychologists was held at Cornell University, April 4 and 5. The papers read fell into four main groups. (1) Professor Sanford described Experiments on Idiots, and Professor Witmer discussed the Laboratory Investigation of Backward children. (2) Professor Judd read a paper on the Analysis of Movements made in Simple and Compound Reactions; Dr. Whipple criticised the Simple Reaction as a Test of Mental Ability; and Professor Seashore offered some comments on the psychological term 'Observer' (paper read in absence). Professor Witmer also spoke on shortest reaction values, and on the distinction of sensory and muscular reactions. (3) Professor Judd reported an investigation of Eye Movements studied by photography, with special reference to the Müller-Lyer, Poggendorff, and Zöllner Illusions; and Professor Pillsbury described an Apparatus for investigating Torsion during Eye Movement, with some Results. (4) Mr. Stevens outlined a Study of Attention by the Method of Expression; Professor Pillsbury spoke upon the Influence of Closing Eyes upon Attention Waves; and Mr. Ferree discussed the part played by adaptation in the phenomena of Visual Attention. Other papers read were: Dr. Whipple, Difficulties in the Use of the *A*-Test; Dr. Baird, Recent

Work in Perimetry ; Professor Judd, Imitation of Tones, with and without Distraction. Demonstrations were made by Professor Sanford (a novel form of color mixer), Dr. Whipple (an apparatus for determining the relative legibility of the small letters), and Mr. Sabine (speed regulator for the von Frey Limen Gauge). Five papers were read by title : Dr. Baird, Convergence and Accommodation in the Perception of Depth ; Mr. Gallo-way, Fluctuations of Attention and Vasomotor Waves ; Miss Castro (paper introduced by Professor Angell), Experiments on the Interrelations of Taste and Smell ; Professor Titchener, The 'Psychophysical Series' as a Training Experiment, and Type *vs.* Instruction in Psychophysical Work. Some time was also spent in inspection of the psychological and psycho-educational laboratories.

Professor James Ward, of Cambridge University, will lecture before the Summer School of the University of California, and will also be present at the Congress of Arts and Sciences in St. Louis.

Professor Benno Erdmann, who is also to speak at the St. Louis Congress, has received a call from Bonn to the University of Tübingen.

We give below a list of articles, etc., in the current philosophical periodicals :

THE PSYCHOLOGICAL REVIEW, XI, 2 : *W. L. Bryan*, Theory and Practice ; *Max Meyer*, On the Attributes of the Sensations ; *Boris Sidis*, An Inquiry into the Nature of Hallucinations, II ; Discussion.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XV, 1 : *W. P. Montague*, A Theory of Time-Perception ; *B. R. Andrews*, Auditory Tests ; *E. B. Titchener*, Some New Apparatus ; *I. M. Bentley* and *E. B. Titchener*, Ebbinghaus's Explanation of Beats ; *C. Spearman*, The Proof and Measurement of Association between two Things ; *I. M. Bentley*, Professor Cattell's Statistics of American Psychologists ; Nocturnal Emissions ; Literature.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, I, 5 : *A. K. Rogers*, The Relation of the Science of Religion to the Truth of Religious Belief ; *H. B. Alexander*, The Concept of Consciousness ; Discussion ; Reviews and Abstracts of Literature ; New Books ; Notes and News.

THE PSYCHOLOGICAL BULLETIN, I, 4 : *C. E. Seashore*, The Experimental Study of Mental Fatigue ; *H. H. Bawden*, Recent Tendencies in the Theory of the Psychical and the Physical ; Psychological Literature ; New Books ; Notes ; Journals.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, XXXIV, 2 : *C. M. Giessler*, Das Geschmackvolle als Besonderheit des Schönen und speziell seine Beziehungen zum sinnlichen Geschmack ; *G. Abelsdorff* und *H. Feilchenfeld*, Über die Abhängigkeit der Pupillarreaktion von Ort und Ausdehnung der gereizten Netzhautfläche ; *Felix Bernstein*, Das Leuchtturmphänomen und die scheinbare Form des Himmelsgewölbes ; Literaturbericht.

XXXIV, 3 u. 4: *B. Groethuysen*, Das Mitgefühl; *W. A. Nagel* und *K. L. Schäfer*, Über das Verhalten der Netzhautzapfen bei Dunkeladaptation des Auges; *W. A. Nagel*, Einige Beobachtungen über die Wirkung des Druckes und des galvanischen Stromes auf das dunkeladaptierte Auge; *G. Abelsdorff* und *W. A. Nagel*, Über die Wahrnehmung der Blutbewegung in den Netzhautkapillaren; Literaturbericht.

REVUE PHILOSOPHIQUE, XXIX, 2: *Kozłowski*, L'évolution comme principe philosophique du devenir; *G. Dumas*, Saint-Simon, père du positivisme (1<sup>er</sup> article); *G. Batault*, L'hypothèse du "retour éternel" devant la science moderne; *Lapie*, Recherches sur l'activité intellectuelle; Analyses et comptes rendus; Revue des périodiques étrangers; Livres nouveaux.

XXIX, 3: *Cantecor*, La science positive de la morale (1<sup>er</sup> article); *Brenier de Montmorand*, Ascétisme et mysticisme: étude psychologique; *G. Dumas*, Saint-Simon, père du positivisme (Fin.); *G. Milhaud*, Les principes des mathématiques; Analyses et comptes rendus; Revue des périodiques étrangers; Livres nouveaux.

ARCHIVES DE PSYCHOLOGIE, No. 9: *E. Yung*, Recherches sur le sens olfactif de l'escargot; *Ed. Claparède*, Le mental et le physique d'après L. Busse; *A. Lemaître*, Des phénomènes de paramnésie; Faits et Discussions; Bibliographie.

No. 10: *J. Larguier des Bancels*, De la mémoire; *A. Lamaitre*, Audition colorée hallucinatoire, stabilité et hérédité des photismes; *W.-M. Kozłowski*, Le plein et le vide; Faits et discussions; Bibliographie.

JOURNAL DE PSYCHOLOGIE NORMALE ET PATHOLOGIQUE, I, 2: *Pr. Pick*, Les zones de head et leur importance en psychiatrie; *F.-L. Arnaud*, Idées de grandeur précoces dans le délire de persécution chronique; *F. Houssay*, Mœurs et régimes; *G. Durante*, Considérations générales sur la structure et le fonctionnement du système nerveux (1<sup>er</sup> article); Notes et discussions; Bibliographie.

RIVISTA FILOSOFICA, VI, 5: *F. Bonatelli*, Le categorie psicologiche; *R. Nazzari*, L'uomo di genio per gli psichiatri e gli antropologi; *O. Nazzari*, La concezione del mondo secondo il Bhogavadgita; *A. Gnessotto*, Nota sul canone del metodo indiretto di differenza di J. S. Mill; Rassegna pedagogica; Rassegna bibliografica; Notizie e pubblicazioni; Necrologio; Sommari delle riviste straniere; Libri ricevuti; Indice dell'annata.

RIVISTA DI FILOSOFIA E SCIENZE AFFINI, II, 5-6: *E. Zamorani*, A chi legge; *R. Ardigò*, Sentire; *G. Vailati*, La teoria aristotelica della definizione; *P. Orano*, Max Stirner in Italia; *F. Momigliano*, Un pubblicista, economista, e filosofo del periodo Napoleonico (Melchiorre Gioia); Rassegna di filosofia scientifica; Fra i libri; Notizie; Indice degli articoli originali dell'annata 1903; Libri ricevute e sommari di riviste.

## THE PHILOSOPHICAL REVIEW.

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JONATHAN EDWARDS.<sup>1</sup>

IN the preface to his book on Jonathan Edwards, Professor Allen quotes with approval the remark of Bancroft: "He that would know the workings of the New England mind in the middle of the last century and the throbbings of its heart, must give his days and nights to the study of Jonathan Edwards." And Professor Allen adds: "He that would understand the significance of later New England thought, must make Edwards the first object of his study." Time has at last set the limit to the truth of such remarks. To understand the philosophy and theology of to-day in New England or the country at large, the student must undoubtedly seek his foundations elsewhere than in the thought of Edwards. His influence is now largely negligible. The type of thinking which most widely prevails is so far removed from him, in such notable contrast to him, finds its roots so markedly in other sources, that interest in him is more antiquarian than vitalizing. But the remarkable thing is that these statements, true to-day, were not true in 1889, when Professor Allen's book appeared. To question then the soundness of his estimate or that of Bancroft's could at best involve only the censure of a mild exaggeration. A few days and nights, even at that time, might have been spared the student of New England thought from surrender to Edwards.

That less than twenty years could have involved such a change, is itself a significant commentary on the power of Edwards's work. It has failed not through refutation, but through inad-

<sup>1</sup> Read at the Edwards Commemoration at Andover, Mass., October 5, 1903.

equacy. To-day we get so much more elsewhere, and find other richer sources to stir us to progress or controversy. It is to Greek philosophy and to British and German philosophy and theology that the student must give his days and nights, if he is to understand our thought. And so for us, I take it, New England thought, impressed in its beginnings so potently by Edwards that he dominated it either positively or negatively for a century and a half, has failed to afford a foundation for progressive development in either philosophy or theology. It is to be noted further that the foundations we now rest upon, have not been laid by our contemporaries. They reach far back into the past, to Edwards's contemporaries abroad, to his predecessors by many centuries. Significant as the thought of New England has been on its speculative side, it has not contained enough native, original strength to preserve it from the inadequacy which profoundly marked it through its ignorance of history. The courses in philosophy and theology offered in our colleges, universities, and seminaries to-day, are so immeasurably superior to those offered twenty years ago, that one can readily understand why the types of philosophy and theology are so vastly different and owe such different allegiance. But one would be a poor observer, if his amazement did not keep pace with his observation, if he did not recognize the peculiar vigor of that New England thought, which may have ceased to influence him profoundly.

I would not, therefore, have these remarks of mine construed into a belittling of Edwards or his influence. I have made them because, in connection with that influence, they indicate the fact from which it must be estimated. More than this: this fact, viewed in the light of what Edwards himself did and of what his early years gave promise, has given me the most suggestive insight into the man's power and versatility, and a more satisfactory estimate of his personality as a thinker. For he was a man with an undeveloped possibility, greater, to my mind, than the actuality attained. He did not belong to the men we cannot imagine different, but to the men, whom, the better we know them, the more we seem compelled to view in other light. What he might have been, becomes, at least for the student of philosophy, as insistent and suggestive as the question what he was.

One cannot write history as it ought to have been. Yet this truth ought not to blind us to the fact that there have been great persons, whose position in history has been not only influential, but, more significantly, critical. To such persons is chargeable not only what their influence has been, but also what it has not been. If the thought of New England has been largely determined by Edwards in its positive achievements, it has been almost equally determined by him in what it failed to achieve, for he undoubtedly possessed, although he did not carry through in his work, those elements which in large measure would have made that thought more stable and lasting. It has failed through lack of real philosophical insight. But it was just this insight which Edwards possessed in a very remarkable degree, but failed to carry through in his work. And this is the more significant because no other American has, perhaps, possessed philosophical insight of equal power.

It would of course be futile to attempt to say what American thought would have been, if Edwards had not lacked philosophical thoroughness. Yet it appears to me undoubtedly true that it no longer finds him influential because of just this lack, and that it presents to-day little continuity with its past. It has appeared to me instructive, therefore, to consider with some detail, this lack of philosophical thoroughness in Edwards's work, in order to an appreciation of his critical significance in the history of American thinking, and of the profoundly interesting character of his own thought.

Edwards's early "Notes on the Mind," of uncertain though doubtless early date, incomplete, detached, and of most varying worth, are doubtless for the student of philosophy the most impressive products of Edwards's thought. While they reveal his philosophical ability as perhaps none of his publications reveals it, they cannot be credited with contributing to his influence. They were not a known factor. They are not inconsistent with his elaborate treatises, as Professor Gardiner maintains that they are not,<sup>1</sup> but one would not be led to suspect them from these treatises. I dismiss consideration of them for the present, there-

<sup>1</sup> PHILOSOPHICAL REVIEW, Vol. IX., p. 573.

fore, to return to them after speaking of some of his completed works. Foremost among these is undoubtedly his *Enquiry into Freedom of Will*.

The reader of this enquiry to-day must add his tribute to the many bestowed by others on its greatness. But just because it is so great, its lack of philosophical thoroughness is remarkable. What amazes one about it is that an analysis of the will so acute, so sane, so dispassionate, so free from prejudice or tricky argument, and so sound, if the distinction of terms made by Edwards is admitted, could yet, with hardly a trace of rational justification, be linked with a Calvinistic conception of God and the world. I do not mean that it is at all amazing that Edwards's conception of the will should be held by Calvinists, or be thought consistent with their positions, but rather that a mind that could so profoundly philosophize about the will, could be so insensible of the need of further philosophy to link his results with his theological convictions. More than this—that a mind so fair and dispassionate in his analysis of the will, could be so unfair and passionate in his theological setting of it.

The first two parts of the Enquiry, with the exception of Sections 11 and 12 of Part II, which are exegetical, are to be classed among the greatest of philosophical writings. That Edwards is not unique in what he here discloses does not detract from his greatness. Spinoza, Hobbes, and Hume have all the same doctrine, but exhibit no greater philosophical skill in the exposition of it. Significant too for his remarkable power is the fact that these men had, at first hand, acquaintance with other philosophies which he altogether lacked. In these parts, and indeed in the whole work, wherever Edwards seeks to fix or distinguish terms, he is remarkably acute. A notable illustration of this among many equally notable is his analysis of the term 'action' in Part IV, Section 2. His clear insistence on the need of such analysis, and his skill in executing it, rank him among the great logicians. Simple distinctions in argument, but of weighty import, abound, such as this: "Infallible foreknowledge may prove the necessity of the event foreknown, and yet not be the thing which causes the necessity." Everywhere the impression is left that such



simple distinctions are the fruit of careful thought and the utterances of a mind sure of its grasp. So long as Edwards gives himself up to the analysis, this sureness is evident, so evident indeed, that he lets the argument carry itself by its own worth without any attempt at persuasion.

The results of the analysis are notable. Necessity may be one in philosophical definition, but is as diverse in existence as the realms where it is found. Natural and moral necessity are both necessity, but different kinds of it. Causal relations may exist between mental events as well as between physical events, without making mental events physical. What makes moral necessity repugnant is its confusion with natural necessity, which is as if one were to confuse mind with matter. We should recognize too that necessity is not some exterior fate compelling events, but the actual linkage which the events disclose in their existence, and that they do disclose such linkage wherever they exist, in the mind as well as in nature. Did it not exist in the mind, there would then be no linkage between motive and act, between end and means. Again, whether an act is voluntary, and so free, depends on whether it is the result of volition or of something else. The causes of volition, whatever they may be, do not affect its voluntary aspect or destroy the function of the will any more than the causes of life destroy the functions of life. Again, moral praise or blame does not belong to the causes of men's acts but to the acts themselves, just as natural praise or blame belongs not to the causes of a thing but to its value. Yet moral merit is different from natural merit, as the mind is different from nature. So one might continue until he had exhibited all the results of the analysis.

I am, of course, aware that attempts have been made to overthrow this analysis of Edwards, but I confess that I find nothing in the analysis which should lead one to make the attempt. Motives to that effort are derived from other sources, and almost exclusively from ethical or theological interests. Nothing in the whole analysis is hostile to morality until that analysis ceases to be analysis, and becomes instead a revelation of God's activity or the secret workings of some ultimate being. It is not hostile to

morality because it discloses most powerfully and convincingly the fact that man by the necessity of his own nature must act and judge with an appreciation of the value and responsibility of his acts, just as the sun by the necessity of its own nature must shine. To show this is not to drive morality out of human life, but to found it in the constitution of things. It is philosophy at its best.

And just because it is philosophy at its best, we look eagerly for its continuance. But here Edwards fails us. He does not continue. Perhaps he could not. And the fact that he did not or could not is the critical thing for his philosophy and his influence. As we proceed to the remaining parts of the enquiry, containing his polemic against the Arminians, we pursue arguments which have no philosophical relation to what has preceded. There is no longer philosophical analysis and construction at a sustained height, but only flashes of it here and there, amid pages of rhetorical attempts at persuasion, tricky arguments, and sophistry. There is no philosophical carrying through of the doctrine of the will. Repeatedly he is content to dispose of a difficulty in Calvinism by pointing out that Arminianism has the same difficulty. He argues that if total moral inability excuses a man totally, partial inability should excuse him partially and in proper numerical proportion. This remarkable argument he illustrates by his figure of the balance which can turn ten pounds but no more, forgetting, apparently, the deep significance of the fact that it *can* turn anything less than ten pounds, forgetting, in short, the vast difference between degrees of ability and no ability at all. To the objection that men are blameless if God gives them up to sin, he can only cry: "Then Judas was blameless after Christ had given him over."<sup>1</sup> To such instances of philosophical weakness many more could be added, especially Part IV, Section 9, where the question is discussed, "How God is concerned in the existence of sin." It is exceptionally remarkable that the man who wrote the first two parts of the work could have written this section. His apparent unconsciousness of the significance of the fact that his own theory of the will

<sup>1</sup> *Enquiry into Freedom of Will*, Boston, 1754, p. 154.

might, with equal justice, be linked with totally different ultimate positions, is also noteworthy. He recognizes the simple and cogent truth that his doctrine is not false just because Hobbes and the Stoics held it. But he fails to see that their holding of it may point to other conclusions than the Calvinistic.

It is not that Edwards prostitutes his philosophy to his theological convictions. To my mind there is not the slightest proof of that, and, so far as I know, it has never been seriously maintained. The fact is, rather, that the philosopher never became the theologian or the theologian the philosopher. It is futile to try to understand Edwards's Calvinism from his philosophy or his philosophy from his Calvinism. In him they are juxtaposed, not united. But they are not equally juxtaposed. The theology overshadows the philosophy. The latter, however, is of such superior merit to the former in depth of insight and cogency of reasoning, that one is irresistably led to speculate on what Edwards would have been, if the philosophy had overshadowed the theology. One recognizes that his influence would have been vastly different, that it has consequently been a critical influence for American thought.

This juxtaposition instead of union of philosophy and theology is seen in Edwards's other work. I will consider it in the two remaining writings which are of particular philosophical interest, namely the dissertations on "God's Last End in the Creation" and the "Nature of True Virtue." These dissertations, although never published by Edwards, were written earlier than his last publication in 1757. They are not, even if actually written after the *Enquiry into Freedom of Will*, unpremeditated works. The suggestion of them is frequent in his sermons and other writings, from which we could largely construct them. One naturally asks, therefore, why they were not published? Unpublished manuscripts left by eminent men are so frequent occurrences, that the question might be answered by this common fact. But acquaintance with these dissertations gives a pointed interest to the question. For while they present a general agreement with the rest of Edwards's work, and evince that juxtaposition of philosophy and theology which has been remarked, they

exhibit a real simplification of his thought and suggestive indications of almost conscious attempts at unification. Their total effect is rather to weaken than to strengthen his theology. As they are not essentially polemic, but rather more the work of a disinterested inquirer, the logical trend of the thought becomes more natural and inevitable. All the more, logical revulsion is consequently occasioned by the juxtaposition of the elements of an unrelated theology. One is led to suspect that Edwards was becoming conscious of his intellectual duality, and that the dissertations were not published because they must consequently appear to him as incomplete, as faulty, as demanding the work of adjustment. His original power, his versatility, his constant growth, make it improbable that his death in his fifty-fifth year occurred when his intellectual life was fixed beyond alteration. One is tempted, therefore, to regard these later writings, not as the mere conclusions of previous positions, but as works of promise.

It is interesting to note that the dissertation on "God's Last End in the Creation" begins, after an explanation of terms, with a consideration of "what reason dictates in this affair," although it is admitted that the affair is "properly an affair of divine revelation." The justification of reason's dictates in spite of this fact, really amounts to submitting the facts of revelation to the judgment of reason. For Edwards contends that "no notion of God's last end in the creation of the world is agreeable to reason, which would truly imply any indigence, insufficiency, and mutability in God."<sup>1</sup> This dictate of reason, with which, as Edwards would show, revelation is in most consistent agreeableness, contains in undeveloped form the recognition of God's last end in the creation. God is his own last end. The developed form of this statement, we read, wondering indeed if these are the words of the greatest of American theologians, and not rather the words of some disciple of Plotinus or of a Christian Spinoza: "As there is an infinite fulness of all possible good in God,—a fulness of every perfection, of all excellency and beauty, and of infinite happiness,—and as this fulness is capable of communica-

<sup>1</sup> *Works*, Dwight's Edition, II, 13.

tion, or emanation *ad extra*; so it seems a thing amiable and valuable in *itself* that this infinite fountain of good should send forth abundant streams. And as this is in itself excellent, so a *disposition* to this in the Divine Being, must be looked upon as an *excellent* disposition. Such an emanation of good is, in some sense, a *multiplication* of it. So far as the stream may be looked upon as anything besides the fountain, so far it may be looked on as an *increase* of good. And if the fulness of good that is in the fountain is in itself excellent, then the emanation, which is as it were an increase, repetition or multiplication of it, is excellent. Thus it is fit, since there is an infinite fountain of light and knowledge, that this light should shine forth in beams of communicated knowledge and understanding: and as there is an infinite fountain of holiness, moral excellence and beauty, that so it should flow out in communicated holiness. And that, as there is an infinite fulness of joy and happiness, so these should have an emanation, and become a fountain flowing out in abundant streams, as beams from the sun. Thus it appears reasonable to suppose that it was God's last end, that there might be a glorious and abundant emanation of his infinite fulness of good *ad extra*, or without himself; and that the disposition to communicate himself, or diffuse his own FULNESS, was what moved him to create the world."<sup>1</sup> Mystic pantheism could not be more explicit.

Edwards appears not to have been wholly insensible to the possibility of such an interpretation. And here is to be noted an instance of that apparent consciousness of a need of unification which has been remarked. The first objection against his view which he considers is to the effect that his position may be "inconsistent with God's absolute independence and immutability; particularly, as though God were inclined to a communication of his fulness, and emanations of his own glory, as being his own most glorious and complete state." To this he answers: "Many have wrong notions of God's happiness as resulting from his absolute self-sufficiency, independence, and immutability. Though it be true that God's glory and happiness are in and of himself, are infinite and cannot be added to, and unchangeable,

<sup>1</sup> *Loc. cit.*, II, 20.

for the whole and every part of which he is independent of the creature; yet it does not hence follow, nor is it true, that God has no real and proper delight, pleasure or happiness, in any of his acts or communications relative to the creature, or effects he produces in them; or in anything he sees in his creatures' qualifications, dispositions, actions, and state. God may have a real and proper pleasure or happiness in seeing the happy state of the creature; yet this may not be different from his delight in himself."<sup>1</sup> To let this answer suffice, reason must silence its questions. It is no answer at all, but simply a theological proposition juxtaposed to the philosophy.

The silencing of reason is still more apparent in his second answer to the objection. "If any are not satisfied with the preceding answer, but still insist on the objection, let them consider whether they can devise any other scheme of God's last end in creating the world, but what will be equally obnoxious to this objection in its full force, if there be any force in it."<sup>2</sup>

Surely we have in this dissertation no thorough consideration of what reason dictates in the affair. He has in effect, as Professor Allen justly remarks, "sacrificed all that is not God," and all the theology of the world superimposed and insisted on, cannot avoid that sacrifice. The mind that produced the work on the will, and had so irresistably followed the dictates of reason up to this point, may have been unconscious of the gap. If so, this unconsciousness reveals anew the sharp duality in this great intellect. If not, adjustment of some sort must have been felt to be necessary, before the work could be given to the world.

If the Calvinistic theology it contains should be eliminated from the dissertation on the "Nature of True Virtue," there would remain a conception of virtue almost identical with Spinoza's. Disinterested love of God is presented as the highest exercise of the virtuous man, who will exercise it highly in proportion to his knowledge of God, and also will desire that as many as possible should share in the same exercise and enjoy its benefits. These benefits do not really consist in rewards, but the

<sup>1</sup> *Loc. cit.*, II, 27.

<sup>2</sup> *Ibid.*, 29.

virtuous soul finds in virtue itself its true good and highest happiness. "So far as the virtuous mind exercises true virtue in *benevolence* to created beings, it seeks chiefly the good of the creature; consisting in its *knowledge* or view of God's glory and beauty, its *union* with God, conformity and love to him, and joy in him."<sup>1</sup>

This is all in thorough harmony with Spinoza. But Edwards's total conception differs from Spinoza's in one very important particular. With Spinoza man must love God in proportion as he knows God, and ignorance of the divine nature is consequently the cause of all wickedness, is indeed wickedness itself. But with Edwards man may know God completely and yet remain vicious. The devils believe and tremble, but cease not, therefore, to be devils. For while virtue grows as the knowledge of God grows, a virtuous disposition must first be given, natural or derived. Without such a virtuous disposition implanted or native in the heart, there can be no virtuous exercise. Wherever in intelligent beings this disposition is lacking, vice must prevail in spite of perfect knowledge of God and his last end in the creation. "Christians," says Edwards, "have the greatest reason to believe, from the scriptures, that in the future day of the revelation of the righteous judgment of God, when sinners shall be called to answer before their judge, and all their wickedness, in all its aggravations, brought forth and clearly manifested in the perfect light of that day; and God shall reprove them, and set their sins in order before them, their consciences will be greatly awakened and convinced, their mouths will be stopped, all stupidity of conscience will be at an end, and conscience will have its full exercise; and therefore their consciences will *approve* the dreadful sentence of the judge against them; and seeing that they have deserved so great a punishment, will join with the judge in condemning them. . . . Then the sin and wickedness of their heart will come to its highest dominion and completest exercise; they shall be wholly left of God, and given up to their wickedness, even as devils are! When God has done waiting on sinners, and his Spirit done striving with them, he will not re-

<sup>1</sup> *Loc. cit.*, II, 109.

strain their wickedness as he does now. But sin shall then rage in their hearts, as a fire no longer restrained and kept under.”<sup>1</sup>

This emphasis on the necessity of a virtuous disposition to the exercise of virtue was one of the important principles in Edwards's doctrine of the will. Its reappearance here is natural. But it reappears with such force and clearness as to amount to the recognition of something arbitrary in the scheme of things, an element persistently refusing to be related, a reality naturally and originally obnoxious to God. It seriously interferes with the divine power. It can have no place in a world which is the emanation of the divine fulness of perfection. One is tempted to think that its presence in Edwards's thinking is due to a concession to his theology, that it is another instance of that unrelated juxtaposition I have insisted on. And so it may well be. But it serves to make that juxtaposition still more apparent. It is true, however, that this dissertation on the nature of true virtue, if taken by itself, exhibits a greater degree of philosophical thoroughness than is to be found elsewhere in Edwards's work. Whatever may have influenced him thus to emphasize the underlying necessity of a virtuous disposition to the exercise of virtue, this dissertation, with the principle admitted, is most thoroughly worked out. And it is just this thoroughness which makes the dissertation emphasize anew the duality of Edwards's mind. It emphasizes it so emphatically, that the suspicion is once more aroused that he was beginning to feel the need of adjustment between the unrelated elements of his thought.

Lack of adjustment, the juxtaposition of unrelated principles in an ordinary mind, is not a cause of interest. But I have tried to point out that in Edwards there is no ordinary juxtaposition. It is extraordinary. It is crucial for our understanding of the man. It is necessary for a clear characterization of his influence. It reveals itself with such steady accumulation as to amount to a demand, not altogether conscious perhaps, for a revision of the whole system. It reveals Edwards not as a man of a single idea, with opinions changelessly fixed and doggedly supported, but as a man of remarkable versatility, of steady growth, of rich

<sup>1</sup> *Loc. cit.*, II, 134.



promise, but as a man too, who only late in life gave evidence of a possible unification of the diverse elements of his nature. Of these elements the theological was the most prominent both by his exposition and his personal influence. It was his theology that he bequeathed to New England, his theology, be it said, however, stamped with the peculiar force of his great personality. And it was not a philosophically grounded theology. Its own force spent, it could not draw on Edwards's other work. Its failure of continued influence becomes his failure. Yet philosophy was there with unusual excellence. Surely one must recognize that Edwards has influenced American thought critically, gave to it in its first significant and original outburst the theological instead of the philosophical cast, with a theology left so unrelated to a real insight in human nature and the world's nature, that it was bound to fail with the failure of personal conviction of its truth.

A man so profoundly interesting on account of his versatility and the peculiar way its elements were composed in him, so interesting too on account of the nature of his influence, cannot be dismissed without some attempt at an understanding of his intellectual character. It is too easy an explanation of him which would point to his time, his education, his occupation. For, let me insist again, he was distinctly a great man. He did not merely express the thoughts of his time, or meet it simply in the spirit of his traditions. He stemmed it and moulded it. New England thought was already making toward that colorless theology which marked it later. That he checked. It was decidedly Arminian. He made it Calvinistic. To his own personal convictions he was forced, through his removal from Northampton, to sacrifice the work in which he had unselfishly spent his best years. His time does not explain him. We must look to his intellectual history.

Perhaps he would remain altogether enigmatic, were it not for what he has told us of himself, and for what his early notes on the mind reveal. These notes contain an outline of philosophy, which, for penetration and breadth of interest, finds no superior in the work of other minds equally mature. More than this, it

surpasses the work of many maturer minds which have yet received the recognition of history. We know that its inspiration was mainly Locke, but its promise of superiority to him is evident. The remarkable verbal similarity these notes reveal to the writings of Berkeley, have led to a comparison of Edwards with the Irish bishop and a search for traces of his influence. These have not been found. Nor is the philosophy unmistakably Berkeley's. It is more the germ of that mystic pantheism which was disclosed later with such clearness in the dissertation on "God's Last End in the Creation." The trend of his thinking is not so much revealed in such Berkeleyan expressions as these: "When we say that the World, *i. e.*, the material Universe, exists nowhere but in the mind, we have got to such a degree of strictness and abstraction, that we must be exceedingly careful, that we do not confound and lose ourselves by misapprehension. That is impossible, that it should be meant, that all the world is contained in the narrow compass of a few inches of space, in little ideas in the place of the brain; for that would be a contradiction; for we are to remember that the human body, and the brain itself, exist only mentally, in the same sense that other things do; and so that, which we call *place*, is an idea too. Therefore things are truly in those places; for what we mean, when we say so, is only, that this mode of our idea of place appertains to such an idea. We should not therefore be understood to deny, that things are where they seem to be. For the principles we lay down, if they are narrowly looked into, do not infer that. Nor will it be found, that they at all make void Natural Philosophy, or the science of the Causes or Reasons of corporeal changes. For to find out the reasons of things, in Natural Philosophy, is only to find out the proportion of God's acting. And the cause is the same, as to such proportions, whether we suppose the World only mental, in our sense, or no."<sup>1</sup>

The trend of his thinking is revealed rather in such pantheistic expressions as these: "Seeing God has so plainly revealed himself to us; and other minds are made in his image, and are emanations from him; we may judge what is the excellence of other

<sup>1</sup> *Loc. cit.*, I., 669.

minds, by what is his, which we have shown is Love. His Infinite Beauty is his Infinite mutual Love of Himself. Now God is the Prime and Original Being, the First and Last, and the Pattern of all, and has the sum of all perfections. We may therefore, doubtless, conclude, that all that is the perfection of spirits may be resolved into that which is God's perfection, which is Love." "When we speak of Being in general, we may be understood of the Divine Being, for he is an Infinite Being: therefore all others must necessarily be considered as nothing. As to *Bodies*, we have shown in another place, that they have no proper being of their own. And as to *Spirits*, they are the communications of the Great Original Spirit; and doubtless, in metaphysical strictness and propriety, He is, as there is none else. He is likewise Infinitely Excellent, and all Excellence and Beauty is derived from Him, in the same manner as all Being. And all other Excellence, is, in strictness, only a shadow of his." "We shall be in danger when we meditate on this love of God to Himself, as being the thing wherein His infinite excellence and loveliness consists, of some alloy to the sweetness of our view, by its appearing with something of the aspect of and cast of what we call self-love. But we are to consider that this love includes in it, or rather is the same as, a love to everything, as they are all communications of Himself. So that we are to conceive of Divine Excellence as the Infinite General Love, that which reaches all, proportionally, with perfect purity and sweetness."<sup>1</sup> Indeed, if these notes inspire one to curious research into the indebtedness of Edwards to others, Berkeley is but one of several philosophers that will be suggested. But the search thus far has been vain, and it appears true that its vanity is due, not to the lack of evidence, but to the fact that there is no indebtedness which can be counted as significant. These notes are all the greater warrant, therefore, for ranking Edwards among the great, original minds.

But for the understanding of his intellectual history, it is not mainly important to discover the sources of his ideas. It is important rather to note that he began his life of constructive thought in philosophy, and in a philosophy grounded in reason,

<sup>1</sup> *Loc. cit.*, I, 699, 700, 701.

giving little promise of the theologian that was to be, but abundant promise of the philosopher whose mysticism should increasingly shine forth in his latest works, in part a reminiscence, in part a recovery of the impulse of his youth.

This philosophy, however, was never to yield its proper fruitage. It was arrested by emotional experiences for which Edwards himself could not account. He became a theologian of his peculiar type, not through the logical processes of his thinking, but through a kind of mystical intuition. He gives us this account of it: "I remember the time very well when I seemed to be convinced and fully satisfied as to this sovereignty of God, and his justice in thus eternally disposing of men according to his sovereign pleasure; but never could give an account how or by what means I was thus convinced, not in the least imagining at the time, nor a long time after, that there was any extraordinary influence of God's spirit in it, but only that now I saw further, and my mind apprehended the justness and reasonableness of it. . . . God's absolute sovereignty and justice with respect to salvation is what my mind seems to rest assured of, as much as of anything that I see with my eyes."

Supervening upon his natural philosophical bent, such experiences, revealing a nature swayed as much by unanalyzed emotions as by reason, accounts for those aspects of Edwards's thought which have been noted. So potent were these experiences in their effect that his original position was never recovered in its simplicity and originality. So disrupting were they intellectually that his philosophy and theology remained to the close of his life almost completely divorced and unrelated. Such experiences were so consonant with Edwards's native mysticism, that one can readily understand why they never fully rose to the dignity of a contradiction in his thinking. So significant were they for his influence, that we remember him, not as the greatest of American philosophers, but as the greatest of American Calvinists.

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## THE PSYCHOLOGICAL NATURE OF CAUSALITY.

SINCE Hume's attempt to make a purely psychological analysis of the nature and conditions of the origin of the feeling of causality, there seems to have been little desire to trace empirically the marks that serve to distinguish the causal connection of two mental processes from mere temporal succession. It seems, then, that it may be worth while to attack Hume's problem in his own spirit. The advances in psychology since his day should certainly throw new light on the problem and enable us to go farther than he did, even if we work in the same way.

Hume's answer to the question, it will be remembered, was that all depended upon the frequency and strength of the connection between the two events,—that mere succession frequently repeated under varying conditions serves to connect the two events so closely that we say one is the cause of the other and always think them together. That the explanation is insufficient has been demonstrated repeatedly. The two considerations that have been most frequently adduced against it are (1) that we have many pairs of events that succeed each other frequently which we do not regard as causal, as, *e. g.*, the succession of day and night, or the customary relations that have grown up between a given day and an event, as eating fish on Friday, and (2) that there are many pairs of events that are regarded as causally connected when they occur for the first time. These together suffice to mark Hume's answer to the question as at least incomplete.

If we attempt to attack the problem for ourselves, bearing in mind Hume's actual achievements, it is seen at once that the problem divides itself into two parts, corresponding to the now familiar classification into structure and function. From the first point of view, our problem is: What are the characteristics of the two members of the conscious stream, or of their relation, which serve to mark them as causally connected? This is merely a problem in the introspective analysis of a conscious state. From the second and more important standpoint, we must ask: What are the conditions that cause these characteristics to attach to the two

events in question and serve to mark them as peculiarly related and not as merely successive ?

It is easier to answer the first question than the second, but even here there is undoubtedly room for dispute as to many of the elements involved. In the writer's consciousness the sign of the causal relation takes on a distinctively anthropomorphic form. There is invariably a marked attribution of strain sensations to the object, which is represented as active, and just as distinct passivity ascribed to the object that is considered the effect. With the ascription of the effort to the causing event, there also go actual contractions of the muscles of the body that would be involved in accomplishing some purpose. The feeling of effort is not altogether a memory image, but is an actual sensation from real though vain contractions. Nor is this a fact peculiar to the writer. If you will watch any group of men who are discussing the problem of energy in any of its forms, you will notice that, as a man asserts the existence of a real cause, there is often a violent gesture, an added force to the expression of the word, and in many cases an apparent preparation to accomplish the thing that he asserts his cause can do. If you will picture to yourself the relation between the sun and the earth, you will find that you ascribe to the sun very much the same consciousness that you would have, if you were trying to hold a large dog as he circled around you at the end of a rope. Even if we try to think force in the abstract, it is very difficult to obtain a concept that will not be accompanied by this human or animate element. When you picture to yourself any simple form of physical causation, any manifestation of energy, as cohesion, electrical potential, sound waves, or light, and think of them as actually effective, the strain sensations seem bound to enter. One who is not very highly trained in abstract thought and very familiar with mechanical ways of thought, can hardly think two particles of matter as influencing each other without picturing some small force concealed in them somewhere or somehow. If you can get him to describe the actual mental imagery that he uses in representing this force to himself, you will find in practically every case that the strain sensations constitute its kernel, if they do not compose it entirely.

The words of mechanics are all merely transferred from an original human application. Force, strain, stress, energy, work, tension, are all of anthropomorphic origin. The human origin is even now but thinly veiled behind the impersonality that should have complete sway after centuries of technical use. But the metaphor seems to lie deeper than the word, and so is kept alive by the mental pictures that invariably come up as the words are spoken. In brief, then, the one object or event seems to us to be the cause, the other the effect, when we think of the two as related in the same way as our members are related to the weight that we would lift ; while, when this active element is lacking and we picture them as standing to each other as our bodies on a grassy bank to the swallows flying above us, we regard the events as merely successive.

So close is the connection between our own feeling of activity and the idea of cause in the writer's personal experience that it has frequently been noticed when registering some rhythmic process, after the registration movement has become almost reflex, that the movement seems to be the cause of the change that is recorded, not a response to it.

If we are able to regard the sensations of strain that are ascribed to one process as the sign that it is the cause of the event that succeeds it, the more important of the two partial problems still remains to be solved : What is it that determines when the sign is to attach ? It might seem that this problem belongs to some other science than psychology,—either to epistemology, logic, or methodology. This must be admitted as regards some of the aspects of the problem, and that it belongs in part to the different sciences that are concerned with the concrete cases of connection as well ; but, in addition, it must be asserted that there are definite conscious conditions that favor its entrance, and these it is the business of psychology to deal with.

It is absurd to assume that psychology may with propriety consider the conditions of sensation, of perception, of feeling and action, but has absolutely nothing to say concerning reason or belief or causality. It may be true that the latter problems can

only find their final explanation in logic or epistemology, it may even be that their most important phase is logical ; but it is also true that they are phenomena which take place in the same mind as that with which we feel and remember, and that consequently they have a psychological aspect that must be considered, if psychology is to be a complete science of mind.

Perhaps the simplest way of approaching the matter is to consider the arguments *pro* and *con* for some case of disputed causality. One of the best instances that can be found on the border-land of science is as to the existence of telepathy. Here we have bandied to and fro the question as to whether the existence of the same or approximately the same idea in two minds at the same time is or is not to be explained on the assumption that the one idea is the cause of the other. Three tests of the existence of the causal relation are used by the different parties in the controversy, the number of instances — too frequently the number of positive cases with no reference to the number of negative — the proportion of positive to negative as compared with the ratio that would be expected were there no causal relation, and the degree to which the relation can be made to harmonize with the remainder of our knowledge.

That the first factor alone is not sufficient to make us regard two events as causal is shown by the immediate reference to the law of probability, practically a more refined application of the criterion of frequency of connection. We cannot, of course, go into a discussion of the mathematical intricacies here, but may satisfy ourselves with noting that, in cases of disputed interpretation, and in some cases where the probabilities would indicate a causal relation, there is an appeal to the harmony of the particular connection with experience as a whole. In the instance in hand, the question of excess of coincidences over the probable chance relations is very much in dispute. Each man who discusses the census of hallucinations adopts a different method for calculating the probabilities, and for all other phenomena that have been adduced the material is too complicated to warrant any attempt at mathematical interpretation and we are left with a mere series of uninterpreted cases.



The lacking element is supplied, or an attempt is made to supply it, by pointing to analogous cases of connections that are generally recognized as causal. In the case in question, it is said that two minds are related as the transmitter and receiver of the wireless telegraphy apparatus. Everyone would regard this method of proof as in a large measure satisfactory, were it only possible to indicate in the brain or in some mental process anything that could easily be regarded as similar in function to transmitter and coherer, or to anything else that has been known to propagate electrical waves to a distance. Those who do believe in terms of the analogy must simply overlook the differences between the two functions or mechanisms, and keep in mind the similarities alone. Even the result of the calculation of probabilities that is made by the different protagonists is undoubtedly influenced in these doubtful cases by the way in which the analogies appeal to the computer. One predisposed to belief is very likely to decide that some method which reaches the desired result is the correct one, and will be blind to its deficiencies. And if the calculation of probabilities is accepted as entirely favorable to the causal connection between the two mental states that occur simultaneously, one who cannot harmonize the belief with what he knows in other relations will regard their coincidence as merely a curious fact, and will not believe that there is any deeper lying connection between them. It is harmony with experience as a whole that leads us to assume causality, not mere counting of instances, or calculation of probabilities.

The influence of the elements of experience other than the two processes actually concerned is made even more clear, if we compare the almost universal and immediate belief in the Hertz waves and their applications with the general skepticism toward telepathy. In the early stages the number of cases of simultaneous connection was not so very different,—the differences lay entirely or very largely in the fact that everything we knew of electrical phenomena agreed with the assumption of causal relation in the former case and much of experience was at variance with the assumption in the latter.

The same general law seems to hold in every realm of science and every-day life. We feel more assured of the causal relation

between a radiant source and the illumination of neighboring surfaces, when we picture the molecules of the source as in rapid vibration and waves streaming out with each oscillation. The added certainty comes from the fact that the picture brings the new phenomenon into connection with the very familiar means of producing waves on the surface of the water or with the methods of producing sounds. Most of the other theories of science could be shown to consist essentially in a reduction of some one phenomenon to another form which was more familiar. Each accepted causal connection is made to support another, as well as to receive support from those already believed in. From this standpoint, causality would seem to be a process of mutual support which exists between the analogous relations of knowledge.

In every-day life, particularly among the uncivilized peoples, a much more remote analogy will serve to arouse belief in a causal connection. This is perhaps best seen in the many curative rites of savages. It is believed that recovery from disease of an organ has occurred because a part of that organ from an animal has been eaten or burned. Even if the analogy will not withstand rigid examination, it fulfills its purpose for the uncritical.

We may sum up the conditions of origin of the causality feelings so far as they are conscious, then, in the two considerations of the frequency of occurrence, or more strictly in the number of connections in relation to the number of occurrences of the first, and secondly, in the degree in which this particular connection can be made to harmonize with our experience as a whole.

Much more frequently than otherwise, however, there is no conscious tracing of analogies, but the harmony with experience as a whole works unconsciously to give the feeling of causality. We do not stop to think each time of the similarities which exist between the new and the old connections, but they nevertheless work unconsciously. We do not need to delay our decision as to the reality of the connection between the shape of the moon and the state of the weather while we analyze the two facts into their elements or search for analogies. We are content with the simple statement of disbelief. But this statement rests upon very much the same set of conditions, working unconsciously, that

were consciously at work in the preceding case. The connection considered is either in harmony with what we have known before or is not in harmony with it. In the one case we are ready to accept the particular connection as causal, and in the other we affirm there is only a chance coincidence. But there is in neither an actual presence in consciousness of the related experiences. The only sign that we have of their action is in the attribution of strain sensations in one case and the absence of strain sensations in the other. The decision comes up without any fore-knowledge that the decision was to be made. The process is nevertheless one in which the sum total of previous knowledge is at work in reinforcing the final conclusion.

The best evidence for this statement is to be found in the way that what appears a causal relation varies with the experience of the individual. Tell a child that the morning milk was soured by the pixies, who exchanged old milk for fresh, and it will at once accept the explanation. An educated adult may scoff at the statement but believe that the electrical phenomena accompanying a thunderstorm are responsible, while the physical chemist will question this explanation also. The difference is due entirely to the knowledge that each has. Ascribe the failure of a crop to the fact that the seed was planted during the waning of the moon, and the country bumpkin will consider it as adequate without consideration of any kind, while his neighbor of more education will refuse to believe with just as little hesitation and just as little apparent reason. In both these cases we must assume that the deciding motive is the past experience of the individual, his knowledge of similar and related facts, but that these work immediately to support or reject the causal relation, and that we are not conscious of them but merely of their effect. It is a process of physiological reinforcement between the different nerve cells rather than a conscious and reasoned decision in terms of one interpretation or another. In this case it seems that we have reached a conclusion not very different from Bosanquet's when he makes causality depend upon the reception of the particular relationship into a system of knowledge, or into the world of meanings, except that the system arises from the organization

of the individual's knowledge, and is in no sense a supra-mental process.

In short, then, the anthropomorphic feeling of strain, which constitutes an essential element of the sign of causality, will be called up by the first of two succeeding events, when they have occurred together frequently, and when all other experiences serve to confirm the assumption that they cannot exist apart. While each of these factors plays a part, it can, I think, be said that the last contributes most. The closeness or frequency of connection usually furnishes the occasion for the belief in a causal relation, and the more frequent it is, the more likely are we to raise the question; but frequency of connection alone will never satisfy us. Even if we should put the matter on a scientific basis, and find that there is always a quantitative relation between the variations of the two elements, we would not ordinarily be led beyond the statement that it was a curious coincidence, unless the relation in question could be articulated, consciously or unconsciously, with the great mass of our experience. The causal relation is merely affirmed to be possible on the basis of coincidence or succession; it is asserted only when it can be assimilated to the body of knowledge already acquired.

If this analysis of the psychological nature of the causal relation is accepted provisionally, it may be interesting to attempt to apply the conclusions reached to the disputed problem of the connection of mind and body. This should at once furnish a good instance for throwing light on our own problem, and also serve to make clearer the difficulties that attend a formulation of the psycho-physical relation.

As a preliminary, and to avoid complicating our problem with fundamental differences of standpoint, we may assume that both of the terms in the relation are for our purposes mental states, parts of one experience. We have simply the question as to what is the connection that is to be understood to exist between the one experience that we call sensation and the other experience, the acting nerve-cell. If we regard them as two series of experiences that occur together, how much is there to mark them as causally related, and how much evidence to show that they are merely concomitant.

It may be assumed by universal consent that they possess the first two conditions of causality, — they are always found together, one invariably accompanies the other. There is a certain amount of interpretation even in this statement, but it is an interpretation that can hardly be avoided, and in the light of general acceptance needs no discussion. The quantitative relation may also be assumed to hold, roughly at least. So far as we may apply quantitative terms to the measurements of the series, we may say that change of intensity in a given direction in one series is always accompanied by a change in a similar direction in the other. Of course, no identity in the amount of energy transferred can be established between them, but there are extremely few cases of physical causation in which the amount of energy in the effective agent and in the process affected can be directly measured and shown to be identical. Evidently, then, the simpler, more direct tests would indicate unequivocally that the set of experiences which we call the bodily states are the causes of the mental states and that mental states are the causes of bodily movements.

Still there is by no means general agreement that the one is the cause of the other, and the reason very evidently is that to call the connection causal cannot be made to square with the remainder of our experience. In the first place, we can find no analogy for the relation between body and mind in any other relation. It is a fact *sui generis*. Nowhere else are we compelled to connect all of our experience with a single small element of experience. Again, there is no possibility of analyzing the whole relation into a number of partial relations. We can analyze either experience separately into elements, body into brain and not-brain, brain into nerve-cells, nerve-cells conceivably into chemical elements, and, on the other hand, experience into ideas and sensations; but nowhere do we find the elements related more closely than are the two series as a whole. We can never see one pass over into the other, we never have anything more than the mere brute fact that the two processes are there side by side; there is no resolving, no comparing possible.

When specific arguments are raised against regarding the two sets of experiences as causally related, it is always because the

interpretation cannot be harmonized with the explanations that have been given for other facts of experience. To accept it, our conception of other physical laws must be changed. It is alleged that we cannot hold both to the doctrine of conservation of energy, or of the equivalence of energy between cause and effect, and to interaction between mind and body. Even when it is admitted that the physical doctrines in question are merely working hypotheses, there is yet a marked indisposition to abandon principles of explanation that have served so useful a purpose in the organization of knowledge, for a new and isolated fact or principle. Even those writers who argue in favor of interaction furnish equally good evidence for the view that harmony with experience is the occasion for the origin of the feeling of causality. To them the importance of explaining more definitely, or rather, of picturing to themselves more distinctly, the relation between body and mind seems greater than to retain the fundamental physical hypotheses. Experience seems less adequately organized when they leave uncertain the relation of body and mind than when they give up the doctrines of conservation and equivalence of energy in the physical universe. They are ready to reorganize their knowledge about the assumption that there is a real interaction between body and mind, and will sacrifice all general principles of organization that are incompatible with it.

Many of the historical theories of the relation of the body and mind and of their intimate nature can be seen to have developed in consequence of a desire to find an analogy for the relation which would permit it to be subsumed under some general category, without at the same time displacing some equally important fact. On the one hand, mind has been made an epiphenomenal accompaniment of the material; on the other, all real existence has been denied to the group of experiences usually designated as physical, in order that the difficulty of settling the question as to the nature of the relation might be avoided. Or both groups of experience are reduced to a single homogeneous one, now mental, now physical, now neither, now both, that a causal relation may be assumed and other fundamental laws be retained;

but no suggestion as yet seems to be able to harmonize the known facts of the relation of body and mind with the mass of knowledge already organized. All classifications that are suggested seem to leave some facts or some partial generalizations unincorporated.

Furthermore, the attempts of Fechner and others to find an analogy which will permit the two series to be essentially related to each other without assuming a causal relation, equally well show a desire to harmonize the relation with other experiences, even if causality must be given up, and illustrate the fact that it is conceivable that there may be a complete and universal concomitance or an invariable succession — even a quantitative equivalence — of phenomena, without the implication of causation.

Two conclusions are forced upon us from the consideration of the arguments as to the relation of mind and body. As to the latter, it is evident that what is needed for a general agreement that mind acts upon body and body upon mind, is to find a way of conceiving the relation that can be taken up into the general mass of knowledge without doing violence to any of the partial organizations already completed. This may come either by the way of some new method of conceiving the relation that shall steer between the Scylla of causal nexus and the Charybdis of concomitance without essential connection, or it may come through a reorganization of experience that shall make some of the general hypotheses which now stand as an obstacle seem unessential or disappear. What is needed is not an increase in the number of instances, but a new way of formulating the connection, or the discovery of related facts that may illumine the relation.

As regards our main problem, it is evident that it is an essential condition for the origin of the causal feeling that the connection in question can be made to enter into relation with other events which are already regarded as causal. The causal relation arises from a mutual support that each connection gives to all others. Mere frequency of succession or of concomitance alone is insufficient to bring up the impression of causality.

W. B. PILLSBURY.

## VOLUNTARISM AND INTELLECTUALISM: A RECONCILIATION.

INTELLECTUALISM has ruled the world now for some centuries, and its authority has grown ever stronger until at present its very strength has roused opposition. So triumphant has science been over error, wherever it has come into collision with it, that all other aims have tended to be despised, if not denied all validity. Science was said to be objective, permanent, and consistent; but as to the feelings or desires, these were scorned as being subjective, transitory, and contradictory. To accumulate knowledge, to wrest secrets from outward nature, to enter into the inmost constitution of matter, to know the universe completely, was regarded alone as a worthy aim. Right, beauty, happiness, were looked upon by Intellectualists as either fictions of the imagination or else as aspects of reason; for moral, æsthetic, and pleasurable feelings, just because they are feelings, were held to be shifting and unworthy of respect of a reasonable being. Only reason, according to this theory, is rigid, permanent, clear, and nothing which is not such could claim authority.

Such a view of reason appears irresistible while we are its enthusiastic disciples, for our enthusiasm excludes an appreciation or comprehension of any other attitude. To reason we pay respect, because it is the reason; and for the feelings we express contempt, because they are not the reason. Our Intellectualism becomes here a solid proof of its opponent Voluntarism, since the defence of Intellectualism is grounded in the fact that we have such and such feelings,—feelings of respect for reason, feelings of contempt for feelings. As regards logically justifying our attitude, we might with equal right favor the new contention, that of contempt for reason and respect for feelings; for given an individualistic defence, and there is nothing to make us incline to the one attitude rather than to the other. Indeed, our individual inclinations will determine what we assent to, which is saying that we agree with those who agree with us.



A line of thought of this nature is, however, destructive of itself, for it removes the ground underneath us. If all reason and feeling be opinion, and all opinion be final, then there is no common truth and we must cease to be propagandists. Each one must be satisfied with whatever the fancy of the moment suggests, and we must never think that that fancy will live another moment or find an echo in the mind of anyone else. Everything, accordingly, is a matter of capricious taste, and we ought never to argue about it nor ever attempt to convert others to our tastes. Such a consummation would be disappointing to both Intellectualist and Voluntarist, for they do defend their positions and do try to convert each other; yet since this line of thought would bring us to a deadlock, nothing remains but to forsake it and find, if possible, some more consistent way out of our difficulties.

First, we must recognize that the disciple of exclusive reason cannot defend his position, except by a method which makes short work of his claims. If truths of nature have been for centuries accentuated and eagerly sought, we are only entitled to conclude that that accentuation was due to certain factors active at a certain period of human history. Accordingly, it might well be that at some other period men should adopt the same exclusive attitude as regards æsthetics or morals, and look with impatience and disdain on the man who seeks to reveal truths of nature,—as, indeed, many an artist and many a moralist in the past has adopted such a point of view. Apart, therefore, from a comprehensive and organic conception of human nature, we may expect the current of historic thought to change its direction from time to time, and to favor now one class of conceptions and then another, without being able to justify the changes. How many a pleasure seeker is amused at the perversity of the man who pursues truth! How many a lover of art looks down on him who *seeks*, instead of enjoying and admiring! And how many a moralist regards truth, pleasure, and beauty, as so many trifles which should leave the serious man unmoved! Manifestly, men's attitudes differ.

Intellectualism, as a theory, is peculiarly indefensible. If we examine the object of science, we find that it is determined by

many utilitarian considerations. Men do not industriously count the pebbles on the sea shore or the leaves on the trees, and they do not merely state facts as such, for if they did only these things, science, as we know it, would not be ; but men seek general truths, truths which tell them what are the general features of the world they live in to-day, and these truths they mainly seek so as to remove superstition, fear, and helplessness. The very essence of science is thus utilitarian, for the object of generalizing is human nature's shorthand method of reaching facts, and the reaching of facts, in its turn, implies the reaching of useful facts.

The incompleteness of Intellectualism may be demonstrated in another way. Intellectualism is said to voice the demands of truth as such ; and yet not only does it, as we have just seen, seek only for general truths, but, until recently at least, it ignored everything but physics and philosophy. Psychology, human welfare, ethics, æsthetics, education, religion, economics, were left on one side, as if they dealt with fictions, or else they were regarded as if truth were not concerned with them. Instead of being placidly impartial, Intellectualists pick and choose their facts and apply standards of value to orders of facts.

Furthermore, the groundwork itself of physical facts is but a mental product, since the various senses make us apprehend the world in a way which shall be satisfactory to us. Except for this, the eye would see the world as a blur, with no outlines or patterns, or else it would see the world as he who suffers from hallucinations sees it. The normal man is encouraged by heredity to select certain features in the environment according to a certain plan, though he might select other features, or unite them according to a different plan. For this reason our outer world is not objective, in the sense of being 'given' such as it is ; it is rather the result of planful selection, the conception being vitally, though not wholly, determined by socio-utilitarian considerations.

Finally, the relevant fact in reasoning is constituted by the process of a need seeking satisfaction, especially when that process is prolonged and difficult and takes place in the realm of ideas. Strictly speaking, then, Intellectualism is Voluntarism, and Intellectualism approaches nearest to itself when *the process of seeking*

satisfaction becomes itself a need ; but even here, of course, a need determines what is done.

Our criticism of the Intellectualist method has limited, but not destroyed, the claims of science. The Voluntarist must prove science to be Intellectualistic before he condemns it, and that, we have seen, he cannot accomplish, since science is utilitarian in principle. His claim can only be that science cannot logically arrogate to itself the position of a despotic ruler in the mental realm.

The Voluntarist reasons that our will is not to be limited, and that truth has no hall marks. Seeing the *relative* anarchy which prevails among needs, he posits an *absolute* anarchy. If A loves truth, B pleasure, C morality, and D the beautiful, why should not others seek Nirvana, Brahma, or the Absolute, as a haven of rest ? Why should they not choose for their faith Christianity, Buddhism, Confucianism, or Mohammedanism ? Why not be spiritists ? Why not live in a world of their own, with a god or gods of their own ? Why not follow the inner light, or intuitions, or private revelations ? Once truth is assumed as having no signs by which it may be recognized, once it is regarded as being many-faced, and all reasonable discussion must cease. Anybody may be right and everybody may be right. The most reasonable or the most commonly accepted view may be wrong, and the most unreasonable or the most uncommon view may be right. As error is assumed to be in appearance the same as truth and as appealing to us as strongly, we need trouble as little about error as about truth, and simply abide in our faith, whatever it may chance to be, without attempting to convert others, if, indeed, such an attitude does not transform us into pure sceptics. Voluntarism, unless it is organic and reasoned, thus leads to superstition, on the one hand, and to scepticism, on the other. By comparison the inconsistent intellectualist position is much to be preferred.

An organic conception of human nature readily reconciles the opposing views. We are social beings, and we can only remain in society if truth itself is social. If the different members of society practised different moralities and had radically diverging conceptions of government, or if they had, what would be worse,

radically different ways of sensing things or reasoning about them, government and society would cease. Cannibals and altruists, sane men and madmen, are irreconcilable elements with which no society can be built up. Voluntarism would mean here anarchy and anarchism; but men, up to the present at least, have been social beings, and they will collectively meet the individual anarchist and convince or eradicate him. Madmen and anarchists do not organize, and hence, leaving aside the question of right or wrong, society will eliminate the anarchistic Voluntarist. There will be in this way a tendency to have Voluntarists of one kind, and truth will thus remain social.

Nature also has a summary method of dealing with those who do not care to agree with her. Let men exalt hunger, thirst, uncleanness, wilfulness, life-long virginity, and nature will select for survival others who do not exalt these things. Many a person has said that he defies death or that he will not die; but ancient Rome, Greece, and Judea have no living representatives to-day. To a large extent, therefore, truth is natural. Absolute Voluntarism would allow no barriers and would settle everything for itself in its own way; but nature only admits of a relative Voluntarism which shall be in agreement with her own ways. Society and nature thus combine to shape and restrain men's wills; the individual will is met by the opposing wills of others and by the hard and fast lines drawn by nature, and either he makes peace with these or else he succumbs.

However, the greatest foes of Voluntarism dwell in its own household. We do not have one will, at least, most of us; we have many wills. We love truth, pleasure, morality, humor, the beautiful, and much else. We believe truth to be discoverable and universal, and we are anxious that others should share our views. We wish to lead a consistent life, and not to be wavering or changing. We are not satisfied to stand isolated, or to take each moment as it comes. The result of this is a struggle among the needs. Not a life and death struggle usually; but one which admits of constant compromise. When one need is to some extent opposed to another, the needs adjust themselves one to the other until there is something like harmony between

them. The need most important to the organism becomes the ruling principle, and needs which are irreconcilable with the greater good are checked, suppressed, or eliminated. For a time, indeed, one or another casual need may prevail; but most men have a strong desire to live a full life and not to allow themselves to be imposed upon by needs which may have to be avoided. Add to this that it would be extravagant to assume that human nature is irrational or a bundle of irreconcilable extremes, and the conclusion is forced upon us that human nature is after all an organic whole, though an imperfect one which has to be made perfect. Pleasure, truth, morality, beauty, have each their place, or, more correctly speaking, they are one, though they may seem many.

Voluntarism, thus conceived as organic, represents a consistent and cheerful philosophical view, especially if we bear in mind that most men not only wish to be at peace with themselves and live a harmonious life, but that they almost equally wish to live in harmony with their fellows and with nature. The last statement is as important as it is true. Conceiving themselves as social beings, men deliberately adapt or modify their needs so as to be in harmony with society. To such an extent is this true that it is difficult to conceive what we should be apart from our social environment, for even those who are eccentric are largely determined in their eccentricity by the doings of their fellows. In accordance with this, men think it natural to listen to remonstrations and praises, and to be influenced by them. In this sense, we and our fellows form a single whole, just as the various needs in the self form one single whole. Similarly, though not quite to the same extent, we are in sympathy with nature, regarding ourselves and society as a part of it, and respecting it consequently.

The self, as I have said, is an imperfect organism, and hence arise difficulties. Especially is this so with the many men who diverge from the type of the day. We need not consider the extreme instances of madmen, for the unsocial nature of madness is evident from the manner in which society isolates and restrains madmen. In numerous cases, however, abnormality not only exists, but is scarcely regarded as unsocial, at all events in some re-

spects. It has been pointed out, by Professor James and others, that great sensitiveness to certain facts remains a valuable quality, even though that sensitiveness is connected with, or is due to, abnormal or even diseased states. Julius Caesar, St. Paul, King Alfred, and Mohammed may have been great because of certain abnormalities in their nature that led to beneficent secondary changes, *i. e.*, the tendency to epilepsy and the states connected therewith. But even if we subtract the illusions which may have been caused by the abnormal epileptic state, or subtract the epileptic state altogether as being perhaps the result, and not the cause, of great sensitiveness, it yet may well be that extreme sensitiveness will reveal what is hidden from the dull average person. The 'sensitive' may have his place in society, though it would be better if he had the advantages without the disadvantages of being 'sensitive.' At all events, from the utilitarian point of view, there is no justification for condemning or depreciating a man simply because he differs from the average member of society. The profoundly pious, the mystic, the spiritist, the visionary, are perhaps nearer the truth than their fellows, though it is very far from true that it is a peculiar virtue to be differently constituted from the majority. The ideal man is yet to be discovered or created, and until then we must allow as a possibility that a deviation from the normal may constitute a closer approach to the ideal.

A palpable instance, which illustrates that a deviation from the normal is not unreasonable, is seen in the case of those who have special susceptibilities. A great singer, a great composer, a great player, a great painter, differ very much from the average individual, and yet no one would condemn them because of that. Abnormality here, because it is useful, is envied rather than frowned upon. An ideal society might very well consist of men exceptional in some respects, that is, the various members of such a society would each have some particular useful trait exceptionally developed. Nor does a dead uniformity represent a desirable social condition. Rather should one encourage the greatest diversity among the members of a society, provided only that the diversities or eccentricities be innocent or useful. There is

no reason why each one should be a copy of another, why we should be shocked at a departure from the normal, or why we should aim at similarity of character. Ours is not yet the perfect state, and until that unattainable state be attained, we may allow persons to experiment or to gratify themselves in their own way, if they will only respect the more essential demands made on them. In small matters, liberty; in large matters, unity.

The fact that the interest in science will perhaps be displaced by an interest in morality or æsthetics, argues no anarchy, since it may well be that it requires extensive favorable periods to develop to some extent some one department of life. Accordingly, if ethics, theoretical and practical, should now take the place which physical science has been occupying for some centuries, and if, in its turn, the reign of morality be but a precursor to an æsthetic period, this ought to be a matter for congratulation, as arguing advance along many lines. In a highly evolved community, the part of ourselves to be developed would be deliberately decided upon; but this only means that communities still far from being highly evolved have to grope their way along, and must be satisfied with approximations and with betterments which have not been consciously and connectedly thought out.

All tastes and desires are individual, and the taste of any individual or period is consequently not necessarily right or wrong. This has to be allowed, if we are to avoid the two extremes, dogmatism and scepticism. Also, everything, science included, is a matter of needs, and men's needs do not completely agree. Nevertheless, the various needs in the individual tend to be shaped in the light of a common ideal of the individual self, and thus certain needs come to be modified, discouraged, or eliminated, and the same process takes place when the needs of the individual are not in agreement with social needs or with nature. So, also, the present ideal is regarded in the light of a general and progressive social and moral ideal. Assuredly, therefore, Pragmatic morality is restricted and not free, and the Pragmatist is as one-sided as the Intellectualist, if he imagines that Pragmatism justifies any and every kind of opinion as being of equal value.

This is made evident by the fact that scarcely any one is satisfied with splendid isolation. Individualist, humanitarian, socialist, anarchist, Tolstoyan, they all set up social codes and aim at converting their neighbors. As it cannot be settled *a priori* what the ideal is, since that depends partly on the point to which a being or a society has developed, it is naturally right for people to urge their own standards as possibly being nearer perfection than those of their neighbors.

Modern Voluntarism is chiefly due, if I mistake not, to the effort to escape the relentless conclusions of science, which are hostile to many current, especially religious, conceptions. Yet, while this theory is successful in showing that physical science has no right to claim that man must worship at no other shrine, its extreme champions are wrong in hinting at the conclusion that any and every kind of belief is, therefore, equally justifiable. Voluntarism should mean greater circumspection, less dogmatism, and more willingness to endure and to appreciate differences. In its way, therefore, Voluntarism is only a purification of Intellectualism, and, as such, it is as much the enemy of superstition and anarchy as Intellectualism itself. It came to curse; it will stay to bless. It is the foe as much of dogmatism as of scepticism, though it meant to be a friend to both of these.

GUSTAV SPILLER.



## DISCUSSIONS.

### PROFESSOR BAWDEN'S INTERPRETATION OF THE PHYSICAL AND THE PSYCHICAL.

AMONG the recent attempts to reach a new formulation of the psycho-physical problem is the 'functional' theory which has been presented by Professor Bawden in several articles lately published.<sup>1</sup> Professor Bawden begins his discussion in the first article by condemning the traditional statement of the problem. Its very formulation has involved the point at issue, namely, the existence of two orders of reality, mind and matter, the psychical and the physical. In the light of modern thought, however, it must be recognized that the distinction has no existence in nature apart from the intelligence that made it. Mind and matter, the entities of the old ontological theory, are merely scientific abstractions made for methodological purposes, which have become hypostasized as real existences. It is because the psycho-physical problem has been stated in terms of these abstractions that a solution has been impossible.

The only hope for a solution lies in a restatement of the problem, in carrying back the abstractions to the concrete unity of experience whence they were drawn, and reinterpreting the problem in concrete terms. The universe is not a system of static entities. This may have been a useful and hence legitimate conception for the thought of Descartes, but it is hopelessly inadequate and hence untrue for the purposes of modern thought. The only true reality is concrete experience. All distinctions concerning reality, all formulations of law, are responses to the needs of conscious life, and owe their validity to their ability to satisfy those needs. To solve the psycho-physical problem, then, we must consider it in its relation to practical experience, and state it in terms of function, or use, in that experience. The older and unsuccessful efforts toward solution "grow out of the attempt to state a teleological distinction in ontological terms. They grow out of the attempt to state a relative, a fluid, or functional

<sup>1</sup>(1) "The Functional View of the Relation between the Psychical and the Physical." *PHILOSOPHICAL REVIEW*, XI, p. 474. (2) "The Functional Theory of Parallelism." *Ibid.*, XII, p. 299. (3) "The Necessity from the Standpoint of Scientific Method of a Reconstruction of the Ideas of the Psychical and the Physical." *The Journ. of Philosophy, Psychology, and Scientific Methods*, I, p. 62. (4) "The Meaning of the Psychical." *PHIL. REV.*, XIII, p. 298.

division of labor in terms of absolute, fixed, structural elements.''<sup>1</sup> The only statement of the problem making possible a real solution is in terms of concrete practical experience. Such a statement Professor Bawden attempts to give in the 'functional' theory.

In the following examination of this theory an attempt will be made (I) to show that the articles already referred to, instead of giving a single consistent statement of the psycho-physical problem, present no less than four distinct and mutually incompatible positions. I shall attempt to point out (1) that the problem is stated in terms of concrete experience and the physical and psychical defined as correlative functions in this experience; (2) that the statement is made in terms of biology, the physical and psychical appearing as functions of the organism; (3) that the psychical is defined as the meaning of existence, while existence itself is identified with the physical; and (4) that both the physical and the psychical are reduced to the common term 'energy.' (II) The significance of these changes in the author's mode of treating the problem will be discussed, and an attempt will be made to show that the inconsistencies may be traced in large part to a fundamental ambiguity and shifting in the meaning of the chief terms employed, viz., 'experience,' 'function,' and 'tension.' It will also appear that, by an extension in the application of the term 'tension,' the distinction between physical and psychical, originally defined as a distinction existing only for the purposes of reflective thought, is erected into a distinction of ultimate ontological significance, and made the basis of a system of metaphysics.

# I.

(1) As has already been said, the necessity for a reinterpretation of the psycho-physical relation in functional terms forms the point of departure for Professor Bawden's treatment of the problem. In the first article he writes: "As contrasted with all the ontological theories, the functional view would hold that all our reflective distinctions arise within the life of action. We begin with immediate experience, and within this emerges the distinction between means and ends. That part of our experience which is already under control, in the form of available habits, becomes *means*. That part of the experience which is in process of being brought under control or is still beyond definite control, our ideas and ideals, presents unrealized values or *ends*.'" <sup>2</sup> This is the essence of the distinction between physical and

<sup>1</sup> PHIL. REV., XI, p. 479.

<sup>2</sup> *Ibid.*

psychical. What in any experience or situation is taken as given becomes means, or is the physical, for the purpose in view. What, on the other hand, is not given, what we wish to attain, our purpose or end, is psychical for that particular experience.

This distinction is not always present in experience. While experience is running on smoothly and no interruptions or breaks occur, we are conscious of our surroundings and acts as neither psychical nor physical. But as soon as a difficulty arises, preventing us from following our usual course of action, we become conscious at once of what we have to do and the means we have for doing it. The one is psychical, in that it is our idea or ideal. The means we have for attaining this ideal or end, *i. e.*, available habits and fixed modes of action, are physical. "The direct experience of the child or animal, or even of the human adult when he is not thinking, is made up of a series of states or acts which present no conscious distinction between subject and object, between psychical and physical. But if some uncertainty or doubt or difficulty arises, this experience is broken up so that a duality appears in it—a duality of function which serves to dichotomize the experience into a part which is regarded as uncertain or problematic, and another part which is taken as certain or given."<sup>1</sup>

It is evident from this that not only is the distinction between physical and psychical dependent on the needs of experience, but that what is physical or psychical in any particular case is determined solely by the exigencies of the situation. The end will vary with the nature of the difficulty interrupting the course of experience, and with it the means. What is means for one experience, may, under the changed conditions of another situation, become end, and *vice versa*.

In a further account of this relation, given in the second of the articles, the break or interruption occurring in the habitual course of experience is described as a 'tension' in consciousness. As a result of this tension, a certain part of the content is said to become problematic and uncertain, while the rest remains fixed and constant, or is taken for granted. The part which as problematic is undergoing reconstruction is said to occupy the *focus* of the tension. This is the psychical. Similarly, the relatively fixed content forms the *marginal* area, and as such is the physical. "Experience at one time is equilibrated or automatic; at another time it is tensional or conscious. When it is conscious, two aspects come into tension. The relatively stable and permanent aspect of experience is taken as given, as there, as actual. The relatively fluid and changing aspect is regarded as the

<sup>1</sup> *Loc. cit.*, XI, p. 481.

possible or potential merely, as ideal. Experience, or the real, is the interaction of the actual and the ideal; it is the realization of the ideal in the actual. One throughout as to content (structurally), as to form it is two-fold — actual (physical) and ideal (psychical), according to the demands of the reconstructive or growth process (*i. e.*, functionally)."<sup>1</sup> Again, "Every experience has a focal point in consciousness and a marginal area which with reference to this focal point is called the external world. This focus of attention is identified with the subjective or psychical self; this external world is called the objective or physical not-self. But both are aspects of, or factors within, experience, just as the center and circumference are essential elements in the circle."<sup>2</sup>

It would seem from these passages that the distinction between focus and margin corresponds to the distinction between end and means, the focus, as the psychical, being identical with end, while the margin of the tension is equivalent to means, or the physical. It must be asked, however, whether it is possible thus to equate the two pairs of terms. The question arises whether, in describing the psycho-physical relation as a relation of end to means, the author is not giving a logical account of the distinction, and whether, on the other hand, the definition of physical and psychical as margin and focus of attention is not essentially psychological.<sup>3</sup> It may be maintained that logical and psychological descriptions of the psycho-physical relation are quite capable of being harmonized, but it nevertheless seems doubtful whether such reconciliation can be successfully accomplished by assuming without discussion the equivalence of such metaphors as means and end, and margin and focus. But even if it be admitted that it is possible to regard these terms as equivalent when used abstractly, their discrepancy becomes apparent so soon as the attempt is made to ask what they really mean, and to apply them to concrete instances. This may best be shown by quoting an illustration used by Professor Bawden in the first article published.

"For example, my experience of the temperature in this room up to the present moment has been neither physical nor psychical, neither objective nor subjective. All at once I become conscious, let

<sup>1</sup> *Loc. cit.*, XII, pp. 303f.

<sup>2</sup> *Ibid.*, p. 318.

<sup>3</sup> It is perhaps significant that Professor Bawden refers indiscriminately to the physical and psychical as margin and focus of a 'tension' and of 'attention.' As I understand it, 'tension' is a crisis in reflective thought and as such is a logical term, while 'attention' is of course a psychological term. The loose use of terms would seem to be a fruitful source of confusion throughout the articles, as I have attempted to show at greater length later in the discussion.

us suppose, of the fact that it has been growing colder and colder. I feel a draft. But I see no open window, no open door. What can be the cause of it? Here is a polarizing, a bifurcation, in my experience. There is something which is uncertain,—the cause of this chilling atmosphere. This occupies the foreground in consciousness: it is the salient, the absorbing content of this experience. And in addition there is the general background of things in the environment, which, being irrelevant in this situation, are simply taken for granted, the chairs, the desk, the blackboard, etc. The door, the windows, the draft, are in the focus of consciousness: they are psychical. My overcoat hanging on the hat-rack is on the border-line: it is in a fair way to become psychical if it grows cold enough, and I am not able to discover the cause of the draft. That is, the overcoat, in such a case, passes into the foreground,—and this is what we mean by the functionally psychical aspect of the experience. The draft, the door, the windows, and the overcoat will, then, remain the psychical aspect of *this* experience until I locate and remove the cause of the discomfort. Then the experience will lapse back again to the former level of direct stimulus and response, at least so far as temperature is concerned.”<sup>1</sup>

In the first place, it is to be noted that the objects in the margin of the tension, the chairs, etc., which are physical for this situation, certainly cannot be defined as *means* to any end. They are, as the author says, “irrelevant in this situation,” and consequently can have no ‘functional’ relation whatever to this experience. Further, the ‘psychical’ elements, the door, windows, etc., scarcely seem to represent any end. Nor does the overcoat; if it is brought into the foreground at all, it would seem to perform the function of means rather than end. Again, before this particular difficulty in regard to the draft arose, the temperature of the room might be supposed to have occupied the margin of the preceding tension, to have been “irrelevant” in that situation, just as the chairs, etc., are said to be in this, and consequently to be defined as physical. Yet the author expressly states that his experience of the temperature up to the time when the tension arises “has been neither physical nor psychical.”

The other illustrations used by the author present similar difficulties. In no case, I think, has it been shown concretely how the definition of physical and psychical as means and end is to be reconciled with their description as margin and focus of attention. But however inconsistent these two definitions appear, especially when concrete applica-

<sup>1</sup> *Loc. cit.*, XI, pp. 481 f.

tion of them is attempted, they nevertheless represent a certain community of standpoint. The distinction between physical and psychical has so far been consistently described as a distinction called forth and determined by the course of concrete experience. The contention so far has been that the distinction is one merely of *meaning* and not one of existence.

(2) Passing now to what has been already referred to as the second position, we find the psycho-physical problem treated in biological terms.<sup>1</sup> The functioning of the psycho-physical organism under conditions of complete adaptation to environment is, it is said, wholly physical. It is only when new conditions arise, demanding readjustment of the organism, that the customary reactions fail, and the habitual, or physical, functions become conscious, or psychical. Thus, under normal conditions, the processes of digestion and assimilation are almost wholly unconscious, and come to consciousness only when prevented by some interference from following their ordinary course. The case is similar in the development of new functions. Adjustments, which at first are made only by conscious effort, gradually become habitual, and finally lapse into unconscious functioning. The condition which calls forth the new function, or brings the habitual function to consciousness, may in general be described as a 'tension' between organism and environment. Habitual or stable acts, which are performed under conditions of adaptation, are described as 'non-tensional' or 'physical.' On the other hand, acts performed under conditions of non-adaptation are 'tensional' or 'psychical.' Thus consciousness "simply represents the life of the organism under a given set of conditions."<sup>2</sup> "Conscious acts may be viewed as automatic acts in the making. They represent 'the felt struggle of the organism to do deliberately what later it comes to do naturally and by way of habit' "<sup>3</sup>

A few pages earlier we find that mental life "is simply a name for the orderly continuous functioning of an organism under conditions of tension in adaptation. When, therefore, we speak of mental activity we are certainly speaking of the activity of this living machine that we

<sup>1</sup> This position appears chiefly in the second article, although it is by no means confined to this, but may be found more or less explicit, I think, in each of the articles published. It should perhaps be stated that none of the four positions which have been distinguished as involving essentially different modes of treatment of the psycho-physical problem by Professor Bawden, is developed exclusively in any one article. While the various positions may appear more prominently in certain of the articles, yet I think they may all be found implicit, at least, in each of the articles published.

<sup>2</sup> *Loc. cit.*, XII, p. 310.

<sup>3</sup> *Ibid.*

call the organism. Mental acts are not different from other acts in the world. The sole difference consists in their being tensional or conscious acts instead of stable or habitual acts. Not all the activities of the organism are conscious. Fully nine-tenths are unconscious or automatic. Digestion, assimilation, circulation, respiration, etc., are under normal conditions, almost wholly subconscious operations.”<sup>1</sup>

The briefest examination of these passages is sufficient to show that the position here taken is wholly incompatible with the description of the psycho-physical problem which has already been discussed. It will be remembered that the physical and psychical were defined as ‘meanings’ given to the content of experience *only when a tension arose in consciousness*. We found an experience, before the arising of a tension, described as “neither physical nor psychical.” Now, however, in the last passages quoted, non-tensional activity is identified with the ‘physical,’ while tensional or conscious activity as a whole is defined as ‘psychical.’ That is, in this case, physical and psychical are mutually exclusive phases or stages in the functioning of a biological organism, while before they were defined as coëxistent meanings, constituent elements, in the content of consciousness, correlative in the sense that the emergence of one necessarily involves the appearance of the other. Again, in this latter account, physical and psychical are distinct *modes of existence*, determined by objective and physical conditions. Before, it was maintained that the distinction was created by, and existed only for thought. “It has no existence in nature apart from the intelligence that makes it.”<sup>2</sup> Instead of being determined by physical conditions, it was urged that the “reality of the distinction is conditioned by the methodological and epistemological demands which first gave rise to it.”<sup>3</sup>

The real significance of the change may perhaps be stated thus: A distinction, which originally was defined as one made in response to the needs of conscious experience and existing only for intelligence, and which was further described as shifting with every change of conscious interest and purpose, is now erected into a distinction obtaining in objective reality, and its terms, the physical and psychical, hypostasized as objective existences. Finally, this hypostasization having been accomplished, one of these terms, the psychical, is identified with conscious life, or experience itself, which was originally the inclusive term for all reality.

<sup>1</sup> *Loc. cit.*, XII, p. 308.

<sup>2</sup> *Ibid.*, p. 305.

<sup>3</sup> *Ibid.*, pp. 305 f.

It is interesting to note further that this change in treatment involves a complete reversal of the earlier position which defined the physical as means, and the psychical as end. For if perfect adaptation means wholly habitual or physical functioning, and if consciousness emerges only when this is interfered with, and exists only until readjustment is secured, if conscious acts are only automatic acts in the making, the only conclusion possible seems to be that the physical is the true end for which the psychical is the means.

Enough has now been said, I think, to show that there is a fundamental inconsistency in Professor Bawden's mode of treatment, or rather, that there is a fundamental change from one mode of treatment to another. Before discussing further what is involved in this change and how it was made possible, it seems best to proceed at once to the account of the other two statements of the psycho-physical relation, after which it will be possible to consider these questions in the light of the whole theory.

(3) The statement of the psycho-physical problem which will now be considered, seems to be relatively unimportant and to have but slight connection with the development of the functional theory as a whole. We have already seen that, in the first position, physical and psychical were defined as correlative meanings, or 'functions' of experience. This explicit statement was made with reference to experience: "One throughout as to content (*structurally*), as to form it is twofold — actual (physical) and ideal (psychical) according to the demands of the reconstructive or growth process (*i. e., functionally*)."<sup>1</sup> In the second or biological position, we saw that Professor Bawden still insisted that physical and psychical must be defined in terms of function or activity. Now as a third position, however, we find the physical described as 'structure,' while the psychical is defined as its 'function,' and we are also told that the relation between the two is that of 'existence' to 'meaning of existence.' "And, just as the conception of inert matter has given place to the doctrine of energy on the physical side, so the conception of fixed, ready-made faculties has given place to the doctrine of psychic functions. It is but a step further to say that these functions are the functions of this energy, that the function is but the meaning of structure, that the psychical is but the significance of the physical. . . . Why not go the whole way and say that the psychical has no *existence as such* at all, but is simply an expression for the *meaning* of existence?"<sup>2</sup>

<sup>1</sup> *Loc. cit.*, XII, p. 304. Italics mine.

<sup>2</sup> *Ibid.*, XI, pp. 477 f. See also XII, p. 307.



It is evident that this passage is incompatible with both of the earlier positions. The contradiction which the identification of the physical with structure presents both to the original definition of the physical as function of experience, or margin of attention, and to its later definition as the functioning of the organism under conditions of adaptation, is too obvious to require elaboration. It may be pointed out, however, that the assertion that the psychical "has no existence as such at all," and the further identification of it with function, would seem to imply that the only real existence is structure, which is scarcely compatible with the author's insistence that all reality must be interpreted in terms of function or activity. Indeed, it is apparent that, while the biological position transformed both the physical and the psychical from mere methodological distinctions into actual existences, this position hypostasizes merely the physical. It seems difficult to avoid the conclusion that Professor Bawden, in thus investing the physical alone with real existence, has involved himself in materialism, in spite of his repeated repudiations of this position. However this may be, it is sufficiently evident that this account of the psycho-physical relation represents a mode of treatment fundamentally incompatible with both of the descriptions already given.

(4) The statement of this position involves again the necessity for a reconstruction of the ontological theory of the universe. Under the influence of modern science, it is said, the interpretation of reality in terms of static entities has given place to a description of all existence in terms of action, force, or energy. In the physical sciences, under the leadership of such men as Professor Ostwald, the atomic theory is being superseded by the new doctrine of 'energism.' Instead of conceiving reality as reducible to atoms and their movements, the atom is conceived, from this point of view, as itself a force or center of motion. "The existence of matter has not been disproved, but its utility as a concept in its old static form has vanished in the light of a new understanding of the nature of motion. In place of the dead inert matter have been put the positive conceptions of energy and force. . . . What was formerly called the material object or thing is now regarded as the latent or potential as contrasted with the active or kinetic form of energy."<sup>1</sup>

Along with this transformation of the fundamental concepts of the physical sciences, a similar change is taking place on the side of psychology. "We no longer speak of mind *and* its faculties, of functions and that which *has* the functions. The mind does not *have*

<sup>1</sup> *The Journal of Philosophy, Psychology, and Scientific Methods*, I, p. 63.

functions; it *is* the functions. It is real only in its activity, or rather, its activity, its functioning, is its reality.”<sup>1</sup>

The transformation of the traditional static terms into dynamic terms of interpretation, it is held, makes possible a new statement of the psycho-physical problem in a form admitting of its solution. The physical and psychical are no longer distinct ontological entities incapable of being brought together, but they are alike interpreted in terms of force or activity, *i. e.*, in common terms. It is true that the concept of energy, as used by Professor Ostwald, “is too poor to express the contents of the ideas of life and mind. Unquestionably, these latter concepts, as they are at present used, will have to be modified before they will form a continuous series with the concept of energy.”<sup>2</sup> But “the modification cannot be all on the side of the biological and psychological categories. The concepts of biology and psychology must reconstitute the concepts of physical science as truly as the converse. Indeed, is not the modern concept of energy itself a good illustration of the idealization of a material category, of the spiritualization of matter? Psychical phenomena are not to be ‘subordinated’ . . . to the concept of energy, but both concepts are to be reconstituted, each in terms of the other. Viewed in this light, we may even accept the words of the writer just mentioned [Professor Ostwald] when he says: ‘In all that we know of intellectual processes, there is nothing to hinder us from regarding them as a particular form of energetic activity.’ ”<sup>3</sup>

This position proves most perplexing when we try to coördinate it with the other statements of the writer. What relation, it must be asked, can a psychical which is a phase of the ultimate reality, energy, bear to a psychical which is merely a convenient distinction made by men for the practical purposes of everyday life? Or, again, to a psychical which is equivalent to functioning of the biological organism, *e. g.*, digestion, under deranged conditions? Or, lastly, how can the psychical be at once “the meaning of existence,” and “a particular form of energetic activity”?

From this last account we again see how a distinction which was originally described as one created and determined solely by the exigencies of practical thinking, has been transformed into a distinction inherent in ultimate reality itself. Here, again, as in the biological position, the physical and psychical are both hypostasized. How

<sup>1</sup> *Loc. cit.*, I, p. 67.

<sup>2</sup> *Ibid.*, p. 64.

<sup>3</sup> *Ibid.*, pp. 64 f.

complete is the transformation in the author's mode of thought may be best realized by comparing this last position with a few of the sentences that he wrote in connection with the first account. "There is constant need of bringing back the abstractions which we employ methodologically in science and philosophy, and reinterpreting them in terms of that concrete experience which, since the time when those abstractions took definite form, has been undergoing development and evolving new meaning."<sup>1</sup> "We are forced to interpret these words ['mind' and 'matter'] in terms of our present understanding of that concrete experience in which alone their true reality is found."<sup>2</sup> "The solution of the problem lies in getting back to the principle involved in the practical attitude."<sup>3</sup>

After this repeated insistence on the necessity for tracing scientific abstractions back to the practical distinctions of immediate experience, and for the definition of psychical and physical in terms of their function or use in concrete experience, we find the psycho-physical problem solved by its statement in terms of 'energy,' the most abstract conception, perhaps, which is employed in modern science. It is true that the author states that the term energy, as ordinarily used, is "too poor to express the contents of the ideas of life and mind," and that it must be "reconstituted" together with the fundamental concepts of biology and psychology. But whatever such mutual "reconstitution" may mean, it certainly is not an interpretation of the abstraction in terms of concrete experience, nor does Professor Bawden's employment of the term 'energy' suggest, even remotely, a return to the "practical attitude."

## II.

In the light of the foregoing analysis, it is difficult to avoid the conclusion that the 'functional' theory, as presented by Professor Bawden, contains irreconcilable contradictions, and that the most serious confusion pervades his whole treatment of the problem. It has already been seen that, in the articles published, four distinct accounts of the psycho-physical relation have been given, representing fundamentally distinct modes of treatment, or points of view. We are now in a position to consider further the significance of this frequent change in standpoint, and to ask how such apparently unconscious transitions from one standpoint to another have been made possible.

It is now generally recognized that the sciences do not give final

<sup>1</sup> PHIL. REV., XII, p. 306.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*, XI, p. 478.

and complete accounts of reality. Each represents the investigation of only a particular phase or aspect of reality. In each case, the reality with which a science deals is the reality of concrete experience, but in no case does it remain the unchanged concrete experience. Each science abstracts a particular phase of this reality as its own field of investigation. The laws and formulas which it discovers are not final truths expressing the ultimate nature of existence, but they are abstractions of merely methodological validity, made for particular purposes of thought. They are true so long as applied to the particular abstractions from concrete experience with which the science deals, but their application either to experience as a whole, or to the subject-matter of other sciences, is entirely illegitimate.

Since, however, the subject-matter of every science is an aspect of the same concrete reality, it follows that the same fundamental problems may exist for different sciences. Such a problem is that of the psycho-physical relation. Each science concerned may state such a problem, provisionally at least, in terms of its own technique, but an ultimate statement and solution can be given, as Professor Bawden says, only in terms of concrete experience. The provisional solution made by each science is valid, but valid only for the purposes of that science, and any attempt to regard it as an ultimate and complete solution must lead to confusion. As a further result of this community in subject-matter, it sometimes happens, as in the case of the psycho-physical problem, that the same terms are used in different sciences. But it must be remembered, — and this, it seems to me, is what Professor Bawden forgets, — that while these terms may refer to the same fundamental reality of concrete experience, they represent for each science a distinct and abstract phase of this reality, each bearing its own peculiar connotations. That is, the reality may be the same for each science, but it is the reality as it appears from different points of view.

The first statement of the psycho-physical problem given by Professor Bawden seems to be based on the acceptance of this general view. The attempt seems definitely to be made to treat the problem from the standpoint of experience, and to interpret it in terms of concrete reality. In the second position, however, we find this standpoint left behind, and an account frankly given in terms of biology, which, from the first standpoint, could only represent a view that is abstract and provisional. Similarly, in the other positions, instead of an interpretation of the problem as it exists for experience as a whole, the relation is defined in terms of scientific technique, and the physical and psychical reduced to energy, a term in the highest degree abstract.

We are now in a position to consider the question : How has it been possible for Professor Bawden to effect such apparently unconscious changes in standpoint? The answer to this question is to be found, I think, in the fact that the chief terms employed, 'experience,' 'function,' and 'tension,' are used in very different senses, and transferred from the description of one standpoint to another with no apparent recognition of the changed meaning in the different context.<sup>1</sup> When the first point of view is taken and the problem is stated in terms of concrete reality, experience seems to be used in its legitimate sense, *i. e.*, as the conscious life of the individual. On the other hand, when the standpoint of concrete experience is abandoned, we find passages where it seems undeniably to be used as a scientific abstraction. In some passages, as in the following statement, for example, it seems to be equivalent to the whole of organic life : "Experience is not psychical all the time, either in the individual or in the race ; nor is it physical ; it is both, or either, only at critical points."<sup>2</sup> When we interpret the term in this biological sense, as the whole of organic life, we are forced to the paradoxical conclusion that conscious life is merely an incident in experience.

Again, the word seems to be used in the psychological sense of process, or possibly as equivalent to energy. "From this [functional] point of view, experience is regarded primarily as process. . . . By process here is meant activity, without specifying that it is either physical or psychical. The most fundamental statement we can make about experience is that it is action. It is as much action when it is conscious as when it is unconscious, but the conditions of conscious action are different from the conditions of unconscious action."<sup>3</sup>

The biologist, looking at life from his particular abstract point of view, may perhaps regard conscious experience as a means to the maintenance of organic life, which is taken as an end ; the psychologist for his purposes may regard it as a process ; the physicist or the chemist may even define it as a form of energetic activity ; but experience, when regarded from any of these special points of view, is at least as much an abstraction as the extended substance or the thinking substance of the older ontologists. To call such abstractions 'experience,' and to fail to distinguish these various abstract descriptions from each other and from the concrete experience which includes all reality, must inevitably prove disastrous to any theory.

<sup>1</sup> It is difficult to decide whether this loose use of terms is the cause or the effect of the frequent change in standpoint and mode of thought. It seems probable, however, that these are factors which mutually contribute towards the total result.

<sup>2</sup> *Loc. cit.*, XII, p. 318.

<sup>3</sup> *Ibid.*, XIII, p. 299.

A similar ambiguity may, however, be found in the use of the term 'function.' This is the more noticeable because a considerable part of the second article is devoted to its discussion and definition. The word is there defined as follows: "By function is meant orderly, continuous activity with reference to an end, and this activity consists of changes in structure."<sup>1</sup> This definition would seem to be made from the biological standpoint, and to be applicable to organic life. Thus digestion would be a function of the organism in that it subserves an end, the nutrition of the individual. The significance of function, Professor Bawden says, lies in the meaning or end of the activity. The most serious ambiguity in the use of the term 'function,' however, arises from the fact that it is sometimes used to signify *activity*, and sometimes mere *meaning*. For example, it sometimes means an organic activity, like digestion, having a definite end, while again it signifies correlative meanings given to the content of experience. Thus consciousness, or the psychical, is said to be the function of the organism under conditions of non-adaptation. Again, the psychical is a function of experience, correlative to the physical, in that they are meanings given together in reflective thought. Still a different use appears in the following passage: "The mind does not *have* functions, it *is* the functions. . . . Its various 'faculties,' — sense-perception, memory, imagination, etc., — do not 'belong to' the mind; they *are* the mind."<sup>2</sup> We thus see that function is used indifferently in the biological, the logical, and in the psychological senses, without any apparent appreciation on the author's part of the shift in standpoint.

While this confusion prevails in the use of the terms 'experience' and 'function,' the application of the third term 'tension,' seems to involve, if possible, even greater difficulties. In the earlier articles the usual ambiguity is found. When the author is writing from the point of view of experience, tension seems to be used in Professor Dewey's sense of a conscious difficulty, an interference with the habitual course of our experience, which gives rise to the distinctions of reflective thought. Again, it is somewhat loosely identified with the psychological term 'attention.' In the second position, on the other hand, it is a biological term denoting lack of adjustment of the organism to environment, which gives rise to conscious experience itself.

Moreover, the articles last published show another important change. From signifying an interruption in experience, or a biolog-

<sup>1</sup> *Loc. cit.*, XII, p. 301.

<sup>2</sup> *The Journal of Phil.*, etc., I, p. 67.

ical condition, the term 'tension' is extended to describe the nature of the cosmic process. It becomes the explanation at once of the origin of consciousness in the universe, of the evolution of society, and of the ultimate nature of individuality. In short, by this extension of the term 'tension,' the 'functional' theory, originally formulated as a solution of the psycho-physical problem, is expanded into a metaphysical explanation of the universe. Instead of a difficulty giving rise to reflective thought, or a lack of adjustment between organism and environment marking the emergence of consciousness, tension is now regarded as a phase of the ultimate cosmic reality, energy. "Now just as an organ may be relatively at rest or in active operation, so the universe . . . may be in a relatively stable or in a relatively tensional state."<sup>1</sup> While we saw before that tensional functioning of the organism was identified with the psychical or consciousness, so here, by making tension universal in its application, consciousness is extended from a phase of individual life to an aspect of the cosmos. "Consciousness is not something which belongs exclusively to you or to me. It is simply our name for tension, for variation, for progress, of the whole system of reality."<sup>2</sup> "Consciousness is no more confined to the individual than is tension. . . . It is focussed here and there in what we call individuals, but it is the focussing of the whole system."<sup>3</sup> The individuality of consciousness, in any real sense, Professor Bawden denies. "It is an historical accident, one might say, that my consciousness is so peculiarly mine."<sup>4</sup> The individual consciousness is to be separated from the rest of the universe, or from the social consciousness, only as the focus of a tension is separated from that margin. So, biologically, "what we call the individual organism is a fragment arbitrarily torn from nature, a part distinguished simply for convenience from the rest of the universe."<sup>5</sup>

It is evident that in these passages Professor Bawden is discussing the question of individuality and consciousness in metaphorical terms. If we pause to ask what real meaning these metaphors have, it seems to be impossible to obtain any satisfactory answer. Indeed, the whole account seems to depend so largely on metaphorical terms, and to contain so many questionable assumptions, that it is difficult to suppose that it is meant seriously. How, for example, can my individuality, which is constituted by my being the focus of an adjustment in the

<sup>1</sup> *Loc. cit.*, I, p. 67.

<sup>2</sup> *Ibid.*, I, p. 67.

<sup>3</sup> *PHIL. REV.*, XIII, p. 310.

<sup>4</sup> *Ibid.*, p. 311.

<sup>5</sup> *Ibid.*, p. 308.

whole system of reality, be "an historical accident," be "a sign of my limitation," or "a sign of my unsociality"? What meaning can be ascribed to such expressions?

Again, Professor Bawden suggests that the individual consciousness may be a development from a kind of racial consciousness. "It may be that consciousness began in this generic way, that just as the human individual consciousness emerged by slow degrees out of a sort of group consciousness, so the lower forms of consciousness first represented the tensional stress of some life problem of the species rather than any specific crisis in the life of any so-called individual organism. And, ultimately, on this principle, mental life would have begun in one great cosmic throb of feeling or pulse of cognition. But, of course, all our ordinary catagories break down when we attempt to state the origin of anything."<sup>1</sup> Surely we are justified in asking for the grounds of the assumption that individual human consciousness originated from a "sort of group consciousness," as well as for some interpretation of the latter conception. As to the origin of mental life in a cosmic throb of feeling or pulse of cognition, is not such an hypothesis both unintelligible from the standpoint of our ordinary categories, and without other foundation than a figure of speech?

But even if the metaphysical speculation to which this last article is devoted were acceptable on its own merits, it is difficult to see how the 'functional' theory, as here expounded, can be cleared from the imputation of ontology. Here, even to a greater extent than in the earlier positions we have noted, the author appears to have forgotten his own maxim of the "constant need of bringing back the abstractions which we employ methodologically in science and philosophy and reinterpreting them in terms of . . . concrete experience."

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### THE IDENTIFICATION OF MIND AND MATTER.

IN the PHILOSOPHICAL REVIEW for May, Professor Bawden discusses very interestingly "The Meaning of the Psychical." As a part of this discussion, he enters into a criticism of certain arguments of my own, published in 1885, for panpsychism in general and in particular for this explanation of the relation between the brain and consciousness. Unsettled problems seem to become awakened as objects of interest in cycles, and the time now seems to be ripe for a fresh consideration of this important question. In the seventies of the last

<sup>1</sup> *Loc. cit.*, XIII, p. 310. Footnote.



century, wide public interest was attracted to this problem by the writings of those great public teachers, Bain, Huxley, Tyndall, Clifford, and Fiske, and the echoes of their words are still heard to-day. Though less popular, the keener analysis of Lewes presented the problem about this time in its clearest aspects, while the posthumous work of Barratt (whose untimely death prevented his book<sup>1</sup> from becoming known and thereby influencing thought) was a really great contribution to the subject. The present revival of interest in the question, and not any controversial spirit, prompts me to take exception to some of Professor Bawden's views and his courteous criticism of my arguments.

I feel quite certain that Professor Bawden has not yet got an absolutely clear conception of the hypothesis for which I have frequently contended, and which I have again tried to elucidate in the short article in the *Psychological Review*<sup>2</sup> which is the subject of his criticism. As he has apparently not seen my original book,<sup>3</sup> the fault is probably mine, or, at least, is due to the fact, that the *Review* article necessarily contained only a summary of my argument. Before taking up the objections which Professor Bawden has raised, let me endeavor once more to explain the hypothesis.

The panpsychic hypothesis is not easy to grasp at once, owing to the conventional habits of thought by which we conceive of matter and mind, and to the difficulty of not only taking a new point of view but holding that new point of view steadily in mind throughout the inquiry. But I have found that, when the hypothesis is thoroughly grasped and held, the objections usually made cease to be offered. If we can put aside for the moment our prearranged conceptions, like 'parallelism,' and 'mind and matter being facts of a different order,' etc., etc., the hypothesis becomes a very simple one. It seems to me, too, that it does not embrace any very deep metaphysical or psychological notion. We need not concern ourselves with the 'content' of consciousness, nor with such questions as whether consciousness in retrospection becomes objective or not, nor with the nature of the ego and questions of that sort. It really involves physiology and physics quite as much as, if not more than, psychology, and only includes metaphysics so far as it includes panpsychism. So far as mind and

<sup>1</sup> *Physical Metempsychic*. Very few persons seem to have heard of Barratt. My own attention was called to his work only comparatively recently.

<sup>2</sup> Nov., 1903.

<sup>3</sup> *The Nature of Mind and Human Automatism*. J. B. Lippincott Co. The book is out of print, but I have a few copies left and I should be glad to send a copy to any one interested in the subject.

brain are concerned, we deal with a psychical fact and a physiological fact and an inference as to the relation between them.

From its nature the hypothesis is probably not open to objective proof. At most we can offer an hypothesis, and then inquire, first, whether it explains all the known facts involved in the problem itself, and second, whether there are any correlated facts known which contradict it. If these questions are answered satisfactorily, it is all that can be asked of any hypothesis, and it should be accepted until facts are discovered which contradict it.

The first and most important thing is to set before ourselves the nature of the problem we are trying to solve. It is difficult to believe that Professor Bawden has clearly done this, when he says: "Why what is mental for me is physical for you [meaning brain process] is no more a problem than why the leaf on the tree is different from the blade of grass." In difficulty it may not be more of a problem, any more than one in geometry may be; but it is an entirely different kind of problem, so different that the method employed to solve it must be entirely different. It would seem that it must be owing to his failure quite to grasp the problem that he says: "It is difficult to see why the brain process, when thus experienced from within, should be called 'the actuality,' while the same brain process when viewed by a second person is only 'the symbol of it.' " I may deceive myself, as we are all liable to do, but the reason seems clear to me. What Professor Bawden calls "the brain process, when experienced from within" is a state of consciousness, say a musical note; but that musical note, when viewed (ideally, of course) by a second person, would be perceived as brain motion, and motion could, of course, only symbolize a musical note. It is true that the brain motion is an actuality so far as it is a part of a second person's consciousness; but so far as it is the reaction to the first person's consciousness, it can only be a symbol of the latter. Surely a visual sensation in one person cannot more than symbolize an auditory sensation in another person.

All this will become clear, if I may be permitted to explain once more the hypothesis, after which I will take up the more important objection of Professor Bawden. The hypothesis, so far as the mind and brain are concerned, is this. In common parlance we speak of consciousness and brain processes as two events, different in kind and distinct from each other, which occur in the same organism. The one is psychical and the other material, and it is customary to say that one is correlated with the other. But, from what we know about

the matter, we all agree that a brain process is a mental symbol of something else. Now, according to the hypothesis, consciousness and this something else (to which, for the convenience of language, we give the name of the symbol, brain process) are identical. There are not two correlated processes in the same organism, nor during the activity of that organism is that something else transformed into consciousness, or consciousness into that something else. That something else *is* consciousness.

There is only one process, which you may call as you like brain process, if you speak symbolically, or psychical process, if you define it as it actually is. The problem, then, is one of identification. By identification I do not mean the identification of one state of consciousness in me with another state of consciousness in you, so-called 'brain-process,' but with the so-called but not really 'material' event in me which the conscious state brain process in you stands for. But if we are to use common parlance, instead of this sort of explanatory language, we may say: Consciousness and the brain process are identical. If this seems contradictory, the significance of the formula will appear as we proceed.

If the hypothesis is correct, we have to explain certain facts which appear at first sight absolutely to contradict it. The chief of these facts is the apparent existence of two processes and their apparent non-identity. Is this apparent existence and non-identity true, or is it only a sort of optical illusion? Let us be more specific, and speak of a definite state of consciousness and a brain process. Of course, we do not know what sort of thing, physically speaking, a brain process is, but we have to assume it to be some sort of molecular motion. We will assume it to be that. For our psychical fact we will take a state of pain. Now what we have to do is to identify the brain process, molecular motion, with what is to all appearances a very different thing, a feeling of pain. Now if the pain feeling and the molecular motion are the same thing, why do they appear so different? Why do there appear to be two processes in my organism, one correlated with the other? How does it happen that, *ex hypothesi*, at one time I speak of it as pain and at another as molecular motion?

The answer to this seems not difficult. That the right point of view may at the outset be selected, let it be premised that the recognition of the psychical process as molecular motion is due entirely to a special optical device by which (ideally) I artificially apprehend the psychical state (pain). It is a pure artifact, in the same sense that it is by an artifact that sound (as a phenomenon of physics) is made to appear as

vibrations of the atmosphere, or light as vibrations of ether, or heat as molecular motion of matter. It is by a special device, by another method of apprehending these physical phenomena of sound and light and heat, that we perceive them as forms of motion. That is, it is by a special device that what was before apprehended by the sense of hearing is now apprehended by the sense of sight (vibration), and what was apprehended by the sense of temperature is now apprehended by the sense of sight also. For, of course, sound is not vibrations, though it may, as an artifact, be apprehended as such. More accurately speaking, the thing-in-itself that ordinarily is apprehended through the ears as sound, is now made by a device to be apprehended through the eyes as vision. Similarly, also, sound or pain as a conscious state is not a brain process, though it may by an artifice be made to appear such. Now what is the artifice by which this is done?

We will take the illustration which is thought by Professor Bawden to destroy the hypothesis. Suppose that a person could turn an X-ray apparatus, or a microscope, or some other kind of instrument upon his own brain (consciousness), and by means of it become conscious of his psychical state, a pain. Now how, supposing it could be done, would his consciousness be apprehended through his optical apparatus? Plainly it could only be in terms of vision, and according to the physiological laws of vision. If his retina were acted upon by his consciousness, he would apprehend the latter (see it) as a molecular vibration (brain process). At the same moment, then, that he had a conscious state (pain), or a fraction of a second later, he would have another conscious state, molecular motion. The latter would be his mode of apprehending the former, which is the real process or consciousness. Suppose, instead of using an optical apparatus to apprehend his consciousness, he used an acoustic apparatus; he would then apprehend his conscious state (pain) as sound. If he used a tactile apparatus, he would perceive it as some sort of tactile sensation, and so on.

Suppose we approach the experiment in the converse way. Suppose he turned his optical apparatus on his brain and became conscious of a brain process. He would say, of course, that he *saw* a brain process. Now he asks himself, what it really is that he sees, *i. e.*, whether the brain process exists as such. The answer plainly is, that the so-called brain process is only a state of his own consciousness symbolizing the thing-in-itself. But what is the thing-in-itself? Observing, now, that invariably, while looking through his microscope, he has the conscious experience called the brain process

at the very same instant that he has the pain, he infers that it is the *pain* that he apprehends as the brain process, and the pain is the thing-in-itself, the reality of the brain process. Thus it is, according to the hypothesis, that the brain process is a mode of apprehending consciousness which is the thing-in-itself.

To all this Professor Bawden raises an objection, which it seems to me is due to a momentary fogging of his conception. "But now suppose," he says, "by some device, that one of these persons turns his instrument upon his own brain state. He still, on the theory propounded by these writers, would see only brain state. His own brain state, in this case, would likewise be only a symbol. But a symbol of what? A symbol of his own consciousness, of course. But, by hypothesis, this symbol is a part of his own consciousness.<sup>1</sup> The symbol must then be as real as his consciousness, which, according to Dr. Prince, is the only reality. Reality, then, includes both the psychical and physical, both the consciousness and the brain state. How, then, can consciousness or the psychical be the only reality, *i. e.*, how can panpsychism be true?"

Professor Bawden confuses our own particular consciousness with the psychical in general. It may be answered at once: Our own particular consciousness is not the only reality, though it may be the only reality that we directly know. Professor Bawden's difficulty is readily cleared up, as it seems to me, when we remember that the 'symbol,' so far as it is a state of consciousness, is of course a reality, and if it is a symbol of one's own consciousness, both the symbol and the object are real, being conscious states. But they are not the same, but different states. They are two different states of a personal consciousness. On the other hand, a state of consciousness which is a symbol of a piece of the external world, say a tree, while in itself a reality, is not the particular reality of that piece of the external world. That particular reality is the tree-in-itself, which, by the hypothesis of panpsychism, is a piece of so-called 'mind-stuff.' The things-in-themselves of the whole external world, including our brains, are made up of mind-stuff.

This is a deduction which is arrived at in the following manner. All material things are of the same nature, and amongst material things are found brain-processes; but when we come to analyze our mode of perception of our so-called brain-processes, we find that the process in itself is consciousness, or, as it has been called, 'mind-

<sup>1</sup> "That which we call the physical brain-process is my consciousness or perception of it." P. 652." [Quoted from my article in *Psychological Review*.]

stuff.' Hence we deduce the theory that all other material things-in-themselves are psychic in nature or are elemental forms of mind-stuff. This does not mean that they are self-conscious or even conscious, but that all the so-called forces of the universe are in *reality* the same in kind, and of a nature which, under certain conditions, manifests itself as psychic. This is 'panpsychism.'

Of course, we might as properly say that consciousness is of the same nature as things-in-themselves and the 'forces' of the universe. The doctrine would then be called 'pan-materialism.' It would have the advantage of explaining the more complex in terms of the more simple, but it would have the disadvantage of explaining the better known in terms of the less known. Therefore, we are obliged to adopt the term 'pan-psychism' rather than 'pan-materialism.' 'Pan-materialism,' *when philosophically understood*, and 'pan-psychism' are interchangeable terms.

Professor Bakewell<sup>1</sup> also seems to me to have raised an untenable objection to the hypothesis. He is willing to agree "that the problem of the relation of mind to body is brought nearer to solution by being resolved into the problem of the relation of perception to object . . . and that it is capable of solution along these lines." "But when we reach this point," he adds, "it is seen that the object is at once dependent on two or more distinct egos; and the puzzle of the relation of mind and body returns in this form: How can I influence perception in another consciousness?" But surely we are not obliged to explain the 'how' to maintain the hypothesis. *That* I influence another consciousness may be demonstrated without our knowing the 'how.' We may show that the earth attracts other bodies without understanding how, and, indeed, we do understand every day that one state of consciousness may influence another, without our having the slightest idea as to how it is done. Can any one explain how one idea induces or inhibits another idea, how the presence of one mental state insures another by the so-called 'law of association'? Or how an emotion like fear influences a whole rabble of ideas? The fact is that things-in-themselves are always influencing each other according to what are called 'natural' laws, and there is no difficulty in conceiving that consciousness, a thing-in-itself, may influence another consciousness through physiological laws, that is, through the five senses.

There is one deduction which was drawn by me from this hypothesis, but which has not received the attention that it merits; for either it reduces the hypothesis to an absurdity, or it contains a great philo-

<sup>1</sup> PHILOSOPHICAL REVIEW, May 1904, Vol. XIII, p. 345.

sophical truth. I have called attention to the fact, that, if we consider the action of these organisms acting on each other in such a way that A influences B and B influences C, then a conscious state, say color in A, will be perceived by B as motion, and the conscious state of motion in B will be perceived by C as motion, and a fourth organism, D, would perceive C's consciousness as motion also, and so on *ad infinitum*. In other words, notwithstanding the Berkeleian doctrine, and the fact that things-in-themselves are unknown, the object under these particular circumstances would substantially exist as we see it, *i. e.*, motion would exist outside of our own consciousness. And if brain motion may exist as such, why not other motion?

Is this reducing the doctrine to an absurdity? Is it impossible that motion exists as such independently of our consciousness? That it is only a state of consciousness which is a symbol of something else, some unknown change in the universe? The universality of the Berkeleian doctrine would require this, and yet this deduction from this doctrine brings us back to the recognition of motion really existing as we see it. I see no other choice, and of the two alternatives it seems to me more probable that motion does exist as we see it; that a comet flying through space, or a locomotive racing along the rails, does change its relations to its environment in a way that is apprehended really by consciousness and not as a symbol of something else. If this be true, and I believe it is true, the hypothesis embraces a great philosophical truth, and reconciles things-in-themselves with a true though limited perception of the universe.

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## REVIEWS OF BOOKS.

*Grundzüge der physiologischen Psychologie.* Von WILHELM WUNDT. Fünfte völlig umgearbeitete Auflage. Leipzig, W. Engelmann, 1903. Bd. III, pp. ix, 796; Bd. IV, Gesamtregister, pp. 133.

These volumes complete the revised edition of the *Grundzüge*. The index has grown to such proportions as to demand a separate cover. Volume III contains the last chapter of Part III, the chapter on Temporal Ideas; Part IV, on Emotion and Volitions, in two chapters treating respectively of "Ideational Feelings and Emotions" and of "Volitional Processes"; Part V, "The Course and Combinations of Psychic Processes," in three chapters entitled "Consciousness and the Course of Ideas," "Psychic Combinations," "Anomalies of Consciousness"; and a completely rewritten final division containing a chapter on "The Natural Science Presuppositions of Psychology" and one on "The Principles of Psychology."

As in the preceding volumes of this edition, a very considerable rearrangement of material is apparent. The chapter on Temporal Ideas takes from the fourth edition as follows: The sections on the general time sense problems, on the temporal difference limen, and on temporal displacements from the old chapter on Apperception and the Course of Ideas; the sections on temporal auditory ideas from the chapter on Auditory Ideas. The sections on the relative importance of different senses for temporal ideas, on temporal tactile ideas, on complications of temporal ideas, on the absolute time limen, on quantitative illusions in immediate temporal ideas, and much of that on the theory of temporal ideas are new. In Chapter xvi, on Ideational Feelings and Emotions, everything is new but a few paragraphs in the discussion of æsthetic feeling. Chapter xvii, on Volitional Processes, has the sections on expression of emotion practically unaltered from the chapter entitled "Expressive Movements" in the fourth edition; the discussion of impulsive, instinctive, reflex, and automatic movements, and of the theory of will, has been more or less rewritten, while the sections on the concept of will and the course of volitional processes are entirely new. Emotion and volition, it will be seen, are now treated in the same division of the work, while the preceding edition puts the one in Part IV and the other in Part V.



The next chapter, on Consciousness and the Course of Ideas, contains, besides the material from Chapter xv, on Consciousness, in the fourth edition, the discussion of reaction time from the old Chapter xvi, on Apperception and the Course of Ideas, and adds new sections on the course of reproduced ideas, qualitative and spatial. The treatment of reproduced temporal ideas also borrows from Chapter xvi of the fourth edition. The final section, on the course of memory images under complex conditions, is new. In Chapter xix the introductory survey of the forms of psychic combination, and the section on complex intellectual functions (active memory, reading, writing, intellectual work as affected by fatigue and practice) are quite new; the treatment of successive associations is almost wholly rewritten, that of intellectual feelings taken from the chapter on emotions in the fourth edition. The least modified chapter in the book is the one on Anomalies of Consciousness; while Part VI is, as has been said, entirely reconstructed.

If we survey the material alterations and additions made to the book, we find that, aside from this concluding part and from the new experimental material, all the most important changes arise from the new theory of feeling. Analysis of feeling might almost be termed the chief psychological method in the revised Wundtian system. Strain and relaxation, excitement and depression, pleasantness and unpleasantness,—these last rather less prominent, not being the author's peculiar property,—are the most essential elements in his psychic chemistry. The following details will illustrate: A volition, we are told, is a form of emotion differing from other emotions in its final stage. It ends suddenly, instead of gradually, as emotions proper do; and its ending is brought about by no external influence,—it is self-terminating in a peculiarly abrupt manner. Acts of will may differ in their preliminary phases, but they are all alike in the feeling course of their concluding phase, which occurs thus: An increasing feeling of strain is joined by an increasing feeling of excitation; the latter reaches its maximum shortly after the former, which then gives place, at the moment of the external movement, to a relaxation feeling, whereupon the feeling of excitation disappears. The combination of strain and relaxation constitutes the feeling of activity. When, after a preliminary alternation of motives (affectively toned ideas), one motive fuses with the feeling of activity, we have a new feeling, that of decision. At the moment when, upon action, relaxation takes the place of strain, the total feeling is one of fulfilment (pp. 250 ff.). The course of feelings in apperception is analogous; in prolonged

attention the strain and relaxation feelings alternate periodically (pp. 342 ff.). Passive attention to an unexpected impression is distinguished, aside from being '*eindeutig bestimmt*,' by the occurrence of a relaxation feeling immediately after the impression,—producing, with the other feelings present, a resultant feeling of 'being acted upon' (*Erleiden*).

Temporal ideas are another realm where feelings play a leading part. Ideas of this class are based upon the regular alternation of strain and relaxation feelings; the temporal sign of a sensation in a given series is formed by the fusion of the sensation with the particular intensity of strain or relaxation that belongs, in this periodical course, to the moment of its occurrence (p. 93). Involuntary rhythm arises from the fact that the strain feelings are more intense in alternate periods. Further, the feeling of recognition is also essentially a relaxation feeling. It takes on a special form in 'time sense' experiments where two intervals are compared. If the two intervals are equal, the assimilatively reproduced and directly experienced feelings run the same course, and the relaxation feeling at the end is of increased intensity; if the intervals are unequal, the reproduced relaxation feeling at the end of one may have to fuse with a strain feeling in the other which has not yet run its course, or *vice versa*; whence a feeling of contradiction (p. 510).

In his treatment of the more obviously affective processes, such as æsthetic feeling and emotion, the author has much that is new to say about the feeling components. His analysis of the agreeableness of rhythm, for instance, is as follows: It is a pleasant feeling resulting from the alternation and fusion of strain and relaxation feelings, which have a double source, first, the alternation which, as we have seen, is involved in the periodicity of attention, and second, a fusion depending on the similarity of each rhythmic period to the preceding. This fusion is produced by the fact that along with the strain of expecting the next impression goes the relaxation of recognizing the likeness of the present impression with the corresponding phase of the preceding period (p. 161). Again, one of the associative factors in the æsthetics of form, *e. g.*, in looking at a pillar and its capital, is recognized to be the feelings of effort upwards and resistance to that effort. These feelings are identical in composition with those characteristic of volition, hence Lipps is right in speaking of a projection of the beholder's voluntary activity into the object (p. 188). Many other points of great interest in the treatment of æsthetic feelings must be passed over for want of space to discuss them. The classification of emotions has

of course now to be made on the basis of the 'feeling directions.' Emotions fall into two main classes, according as the predominant feelings are of the pleasure-pain or strain-relaxation category. Excitation and depression, when added, produce various sub-classes; for instance, they distinguish the objective forms of pleasant and unpleasant emotion, such as dislike, from the subjective forms, such as unhappiness (p. 225).

This brief account will serve to illustrate some of the uses to which Wundt puts his new feeling doctrine. Without attempting any thorough-going criticism, the reviewer finds two points suggesting themselves as worthy of some consideration. The first is that, in his zeal for feelings, Wundt lets sensational components escape him, and, in particular, treats the organic sensations entering into the complex processes analyzed in this volume, quite cavalierly. And one cannot avoid the impression that a keener introspective search for organic sensations would find them essential features of 'feelings' belonging to the strain-relaxation and excitement-depression categories. The second point concerns the method of analysis that enables the author to discover the components of a given feeling. Much of this analysis is avowedly introspective; while the curves obtained from the various instruments measuring bodily effects are held to confirm, here and there, the results of introspection, yet most of the dissection of feelings is quite unsupported by external evidence. Now in various passages, notably on pp. 200-201, the peculiar unity of feeling fusions is dwelt upon. In sensation fusions, we are told, the manifoldness of the content always remains recognizable in spite of the dominance of certain elements. But in a feeling fusion, "*so mannigfach die Gefühlssaiten sein mögen, der Totaleffect ist doch für das Gefühl ein durchaus einheitlicher, darum für die unmittelbare Wahrnehmung im Grunde unanalysirbarer.*" This unity of complex feelings, we are told, is due to the fact that feeling, simple or complex, is always the reaction of apperception on a given content. How, then, can apperception analyze feelings at all? If strain, relaxation, etc., were sensational, they could be detected in a complex by the ordinary methods of attentional analysis; if they are feelings, how is their presence in a fusion to be introspectively discovered? Is it not just because they are sensational that all this analysis has been possible?

The concluding part of the book gives clear and full expression to certain well-known Wundtian doctrines concerning the philosophical basis of psychology. In the first chapter it is pointed out, among other things, that scientific explanation merely requires the avoidance

of contradictions, not the subsumption of all phenomena under a single concept ; and that the causal and teleological principles of explanation differ, not in essential nature, but only in direction, the former working progressively, from cause to effect, the latter regressively, from effect or end to cause or means. The most important section of this chapter is the last, on Causality and Teleology of Psychophysical Life Processes, where examination of a typical psychophysical process, the voluntary act, prepares the way for the discussion of psychic causality later on. The idea of the end is a cause of the result of a voluntary act, but only one among other causes ; hence end proposed and result achieved do not coincide, and we see the principle of the heterogony of ends, which Wundt uses so frequently in his ethical theory. From an examination of the voluntary act in its psychological aspect, we find that a psychic causal series differs from a causal series in the physical world through being in a peculiar sense at once causal and teleological. A physical series is both causal and teleological after the event : that is, it may be traced either forwards or backwards. But in a psychic series the effect or end is, as idea, one of the causes or means to its own production.

The two principal topics of the last chapter are psycho-physical parallelism and psychic causality. It is by the interpretation he gives these terms that Wundt thinks to save the science of psychology from ultimate absorption into physiology. Parallelism, which is a heuristic, not a metaphysical principle, is limited to a correspondence between elementary psychic processes and elementary nervous processes ; there is no such correspondence between psychic combinations and nervous combinations, hence we can never have a purely physiological explanation of psychic combinations, no matter how great the progress of neurology. Psychological explanation, based on the principle of psychic causality, will always be demanded. The three principles of psychic causality are the principle of creative resultants, that the combination is more than the sum of its elements, the principle of relativity, and the principle of contrast, which is the law of relativity in the affective realm. The teleological aspect of psychic causality, finally, is expressed in the principle of the heterogony of ends.

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*Der Sinn des Daseins: Streifzüge eines Optimisten durch die Philosophie der Gegenwart.* Von LUDWIG STEIN. Tübingen und Leipzig, J. C. B. Mohr, 1904. — pp. xi, 437.

This work by the editor of the *Archiv für Philosophie* is divided into four parts : "A, Der Sinn der Welt"; "B, Der Sinn des Erken-

nens"; "C, Der Sinn des persönlichen Lebens"; "D, Der Sinn des sozialen Lebens." The first three parts, taken together, constitute a series of essays on specifically philosophical topics, while the last part is a collection of discussions in sociology. The subtitle indicates Professor Stein's attitude, and he appears everywhere as the vigorous and implacable foe of romanticism, scepticism, and pessimism. He hits hard, and his writing always has liveliness, color, and movement. The essays here collected have previously seen the light in various journals, and they are very uneven in quality. Some of them hardly deserved republication and others would bear pruning. But nearly all are interestingly written, and they show a very wide acquaintance with the philosophical and sociological literature of the present day, as well as with the history of philosophy.

Turning now to the first group of essays, the properly philosophical, which occupies one hundred and ninety-six pages, Professor Stein's philosophical attitude is expressed in the fact that he seems to regard Spencer, Wundt, and Mach as the three greatest contemporary philosophers. He also has a predilection for Ostwald's philosophy of Energetics. Professor Stein is an idealist of the psychological type, and his idealism sits easily enough on him to accommodate a considerable variety of attitudes and views. In fact, his fundamental position seems to be a sort of all-comprehending phenomenalism. He quotes Dilthey with approval, and agrees with him that metaphysics has done its work and must be transformed into epistemology, — an epistemology on a psychological basis. "The truth lies within us, not outside of us."

In the second essay, entitled "The Contemporary Movement of Philosophical Thought," Professor Stein draws an interesting contrast between Leibniz, the 'temperamental' thinker, with his emphasis on teleology, and Spinoza, the thinker of cool 'understanding,' who subordinates everything to mathematical order. Biologists, he says, have most affinity with Leibniz, physicists with Spinoza; hence Leibniz is more in favor now since biology is the reigning science. The fourth essay is entitled "Causality, Teleology, and Freedom." Both cause and end are expressions of our sense of order, — aids furnished by thought for our orientation in the external world. But while causality produces definitive order, teleology only formulates provisional order; hence teleology can never become a constitutive principle in the investigation of nature. Teleology is simply a heuristic principle. But in sociology the teleological method is at home, since society is a teleological unity and human history is a kingdom of ends. The social life shows no laws, but only *rules*. And Professor Stein argues for the

freedom of the will in relation to the environment from the fact that, at the most, moral statistics only show regularity of action in about 95 per cent. of the cases considered.

Under "B, The Meaning of Knowledge," the most important essay, and, indeed, the best essay on pure philosophy in the book, is that on "The Neo-Idealism of Our Day : A Contribution to the Genesis of Philosophical Systems." Professor Stein lays down the proposition that the four great epochs of philosophical thinking have each stood under the domination of a determinate means of thinking or category, and he proposes to show that the preëminent category of present day thinking is the concept of 'relation,' and that therefore we are necessarily being driven back to phenomenalism or idealism. These propositions he proceeds to establish with great wealth of historical illustration, chosen with insight and put together with skill. The first category was that of 'thing' or 'person,' apparently regarded as identical. This category of 'thing' as fixed being on the whole dominates Greek thought. In the middle ages, through the notion of the divine attributes, stress is laid on the 'properties' of the thing (*Eigenschaften*). The category of thinghood is passing into that of properties. With the Renaissance the emphasis shifts from being to happening (*Geschehen*). The ruling category becomes that of 'state' or 'condition' (*Zustand*). Constancy is regarded simply as the regular rhythm of states, and the concept of thing is transformed into that of a regular order of changing states. Qualities are reduced to quantitative relations. The laws of motion are unchanging states of matter. Mechanical explanation reaches its highest point and finds its philosopher in Spinoza. Everything is conceived according to the geometrical method. Space is the objective and unchanging condition of the order of succession in things. God is the timeless state or condition of the All. God is nature, the unity of things through law. Spinoza completes mechanism and ontologism ; Leibniz, with his emphasis on becoming, his doctrine of continuity in change, makes the transition from static (*zuständlich*) to relational thinking, from mechanism to dynamism. The monads put relational thinking in the foreground. The world is no longer an eternal state, but an eternal system of relations. All things are transformed into relations. The principle of all relations is proportion, and this rests on number. The number-series symbolizes the synthetic unity of the Ego. "In the number-system unity signifies the identity of the Ego-apperception, multiplicity the distinction from the Ego according to the principle of contradiction." All relations spring from the activity

of the mind. The validity of relations results from a logical necessity of thought, from the law of identity. And so the world picture is transferred from without to within the mind. Truth is valid only from man to man. Number becomes the fundamental measure of permanence. All order in nature rests on numerical proportion, and the demands of the exact sciences place relational thinking at the apex of the categories. Professor Stein tells us that the 'energetic' philosophers emphasize relational thinking, and that the category of relation rules alike with neo-idealists (Cohen, Natorp, Bergmann, Eucken, etc.) and with neo-phenomenalists (Stallo, Mach, Ostwald, etc.). The outcome of this comparative study of categories is that human consciousness is the bearer and measure of truth. Only subjectivism is thoroughly consistent. This latter seems to me an over hastily drawn conclusion; and neither here nor elsewhere do I find that, in the discussion of technical philosophical questions, Professor Stein comes to close quarters with his subject. He ranges over the field, cites literature and names (sometimes too abundantly), makes striking comparisons and contrasts, hits off theories and attitudes with a phethora of antitheses and oratorical phrases, and then leaves one in the mists of his vague, phenomenalist idealism.

The part of the book which deals with "The Meaning of the Personal Life" contains nothing worthy of notice beyond his general theory that, although ideals may be illusions, they are the motive forces of progress. Illusions which have been tried and tested until they have attained a general or racial significance are ideals.

The last part, on "The Meaning of the Social Life," occupies more than half of the book, and, as might be expected from Professor Stein's previous work, it is the most valuable part. I cannot undertake to notice the great variety of subjects discussed, ranging from "The Origin of Society" to "The Aristocracy of Work," and only mention what seem to me the more important essays. In "Herbert Spencer and his Swan Song," an interesting contrast is drawn between Spencer and Spinoza, — Spinoza the philosopher of changeless Being, Spencer the philosopher of unresting change. Law for Spinoza is in the last analysis 'law of thought,' for Spencer 'law of physics' or 'law of motion.' For Spinoza his study was the world, for Spencer the world was his study, etc., etc. Professor Stein finds Spencer's great weakness to be his almost total neglect of the mental sciences, and with this he connects his dislike of grammar and his ignorance of foreign languages. It seems to me quite true that Spencer's ignorance of foreign thought was connected with his lack of appreciation of the human spirit in its rich

and varied manifestations in literature and art and history. But Spencer's dislike of grammar is no sufficient evidence of a repugnance to rule and law. In politics and morals he is an old fashioned British individualist, but no one has tried more seriously to explain the whole cosmos in terms of law.

In a very interesting essay Professor Stein calls attention to the hitherto unrecognized importance of Pestalozzi as *Volkserzieher*. He shows, that Pestalozzi really treated education from the social point of view, and regarded all the institutions of society as means for the education of the individual to a perfect humanity. For him the four chief points of social legislation were popular education, proper administration of police and the judiciary, good military institutions, and a sound financial system. Pestalozzi laid his finger on the central question of all social pedagogics, the relation of the individual to society. He may rightly be regarded as the founder of a new science, social pedagogics.

In an essay on "The Origin, Foundation, and Limits of Authority," Professor Stein shows that all authority begins either in fear or in the imitative impulse, and argues that as the state, based on might, develops, it forms the human reason, and through the reason, in turn, the transition is made from fear, as a basis of authority, to faith, and finally to rational insight. When the latter stage is reached, man sees at once the pedagogic and social necessity of authority, and the limits set to it by the freedom of all, as the true basis of national life. In practical social politics Professor Stein is an optimist, with a leaning towards the conservative state socialism represented by the policy of the German Empire. But he has too wide a knowledge to think that such a policy could be carried over bodily into America or England. He sees in the trades-unions the new aristocracy; and the social problem of the immediate future consists, he thinks, in developing in these by education more sense of responsibility and a wider outlook, and in developing in the upper classes a stronger social sentiment. Professor Stein thinks that the leadership of the world will remain with the Germanic peoples, and he advocates a closer *rapprochement* of Germany, England, and America.

The last essay discusses at considerable length the relations of equality and freedom. It is pointed out that the attempt to institute absolute equality would destroy freedom, and *vice versa*. Professor Stein finds a rhythmic movement in history, a spiral progress. He sketches ten steps in the development of equality, beginning with equality of the members of the same caste or society, and ending with the equality of all before the law. The latter is the ideal embodied in our "West-



European-American culture-system." The consequence of freedom is inequality and of equality unfreedom ; therefore society can advance only by a compromise between the two ideals.

I have found almost all of Professor Stein's essays on social philosophy interesting and suggestive. But these, too, are marred at times by exaggerated antitheses and rhetorical repetitions. Some of them first appeared in popular journals, and they have the faults of popular journalism. With a thorough pruning most of these essays would be deserving of a perusal by all interested in social philosophy.

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*Dissertations on Leading Philosophical Topics.* By ALEXANDER BAIN. London, New York, and Bombay, Longmans, Green, and Co., 1903.—pp. xii, 277.

These fourteen papers were reprinted by their author in the present form under date of January, 1903. "Being now," he writes, in the Explanatory Note, "debarred from the philosophical arena by failure of health, I do not come under any pledge to vindicate whatever either critic or opponent may think fit to challenge or impugn, nor to reconcile seeming inconsistencies in these reprints. They are avowedly my sole amends for inability to execute that thorough revision of *The Emotions and the Will* which, although at one time resolved upon, had to be abandoned for the reasons given in the Preface to the Fourth Edition." "They contain, with some little difference in statement, my latest views on such of those debated issues as were not adequately expounded or not given in final shape in either of my two volumes on Psychology." Twelve of the papers are reprinted from the pages of *Mind*, nearly all from the Old Series. With these is reprinted a short discussion by Mr. Bradley upon the subject, "Is there Such a Thing as Pure Malevolence," serving to introduce Professor Bain's longer paper in reply. The last two papers in the volume treat of "The Scope of Anthropology and Its Relation to the Science of Mind," and of "The Pressure of Examinations," the first being a discussion read to the Anthropological Section of the British Association, at the Aberdeen Meeting, in 1885.

A thorough review of the *Dissertations* would involve, first of all, a careful statement of the teaching of Professor Bain's two principal works upon the several points treated of in the present volume, and then a critical estimate of the value of the improvements and additions here supplied. The task would require a thorough and special knowl-

edge, on the part of the reviewer, of Professor Bain's earlier opinions, and its performance would exceed the proper limits of a short notice. Moreover, the reprints embrace a wide and varied range of topics, which might well discourage even the most adventurous and dextrously evasive of reviewers. I shall accordingly be content herein merely to mention the titles of the several papers, with an occasional word of comment which may serve in a general way to indicate to the reader interested in the particular subject in question the nature of Professor Bain's contribution and to suggest some of the issues which the discussion raises.

Following the first two papers, entitled "The Meaning of 'Existence' and Descartes's 'Cogito'" and "On Moral Causation," comes a shorter one on "Mill's Theory of the Syllogism." Mill's argument in defense of the syllogism against the charge of *petitio principii* Professor Bain regards as in itself perfectly sound, but as exposing him in turn to the charge of *ignoratio elenchi*. Mill is right in holding that, as Professor Bain expresses it, "the affirmer of the proposition, 'all matter gravitates,' is speaking of some things that he knows and of a great many things that he does not know: his proposition is a mixture of the actual and the potential; it affirms what is to be when the case arises. . . ." But "when this is seen to be the character of the general proposition," Professor Bain continues, "the inference from it is no longer a repetition. The process of investing the newly discovered individual with the attributes belonging to the previously known individuals of the same kind is something to be gone through with; it is not mere emptiness or nonentity" (p. 23). This, however, is the process of "Material Deduction" and is of the same nature as induction. It has nothing to do with the theory of the syllogism. Mill should have seen that the syllogism is essentially "the *formal* relation between the premisses and the conclusion, whatever the matter may be" (p. 22), and hence lies apart from the jurisdiction within which the charge of *petitio principii* can have a meaning. It would be out of place here to enter into the merits of the controversy as between Mill and Bain. It would appear, however, that Mill (*Logic*, Bk. II, chap. iii, § 5) recognizes the value of the syllogism as a form or criterion of valid inference as distinctly as could be desired. As against Professor Bain's sharper separation of the formal and material aspects of reasoning, one is tempted to ask whether, as a simple matter of fact, a major premise *can* 'subsume' under it a new individual without suffering something more serious than a mere change in the relative amounts of the 'potential' and the 'actual' of which it is the

'mixture.' Such a change merely transfers Socrates (in the inevitable example) from the former to the latter term of the binomial ( $x + a$ ). If, however, there was any real difficulty, when the syllogism was for the first time gone through with, in 'conceiving' Socrates as a man (and otherwise why should the syllogism ever have been gone through with?), the major premise must have been in some measure reconstructed by bringing Socrates within its scope. Neither 'man' nor 'mortal' can have meant thereafter precisely what they did before; but both must have been qualitatively enriched in meaning. Whether they should still be called by the same names, was a question of practical convenience. Thus only by reconstructing the concept 'man' can Socrates be shown 'mortal.' If we regard the major premise, not as a 'mixture' of what we know and what we do not yet know, but as a working hypothesis whose utility lies in the very fact that it admits of reconstruction, then we shall see no possibility of separating the form and the material of inference, and we shall understand in a deeper sense Mill's doctrine that the conclusion of a syllogism "is not an inference drawn *from* the formula but an inference drawn *according to* the formula" (*loc. cit.*, §4). We shall also be unwilling to agree with Professor Bain that between the induction  $A$  is  $B$  and the 'material deduction' by which another  $A$  is gathered in, there remains even the last shred of difference to what he holds, viz., that the latter operation fails of absolute identity with 'induction' "in not looking to the *conjunction* of  $A$  and  $B$ " (p. 24).

The most interesting part of the next discussion, on "Association Controversies," is an extended summary of Wundt's theory of Apperception together with the author's critical remarks upon it. "To me," says Bain, "the word Apperception as employed by Wundt is unnecessary and unmeaning. All that it is intended to convey is much better expressed by our old phraseology. If it is another name for the voluntary control of the thoughts, it is superfluous, and therefore mischievous" (p. 52). "The point where my disagreement . . . begins is in the drawing of a hard and fast line between the lower and the higher workings of Association," in the latter of which alone, according to Wundt, is Apperception (in the sense of "will alone, as attention") present as a factor (p. 51). Both in the "original forming of the associating links" and in the "subsequent rise or resuscitation of ideas" consequent on association, there are present factors "partly physical, partly intellectual, partly emotional and volitional. To confine the statement to the factor of will alone, as attention, would be insufficient" (p. 50). The vital point, however, in

the discussion of Association and Apperception, would appear to be not the *number* of the separate influential factors, but whether we are to conceive of *separate* factors at all which may come in from without to strengthen the formed or the forming links, — as Bain expresses it, “to make up . . . for the feebleness of a contiguous linking” or “to favor the recall of a resembling image” (p. 51).

The next essay is entitled “On Some Points in Ethics,” and consists in the main of a running criticism of Sir Leslie Stephen’s well-known treatise. This part, however, is prefaced by some noteworthy remarks upon Bentham and his work. Then follows Mr. Bradley’s short paper on “Pure Malevolence” with Professor Bain’s long rejoinder. In the latter the actual existence of the impulse in question is defended with a long series of illustrations, which, if they do not convince, are nevertheless not easy, all of them, to interpret in any other sense. In the case of these more difficult ones, the bias to which Mr. Bradley confesses will probably remain in the reader’s mind: “Even if I did not see how to account for malevolence I do not think I could conclude that it was original” (p. 85). This discussion is followed by a long essay on “Definition and Demarcation of the Subject-Sciences.”

The most interesting and important paper in the whole collection is undoubtedly the one which follows, on “The Empiricist Position.” The introductory paragraphs express the author’s conjecture and belief that “perhaps experience is merely a matter of degree, the contrast of the different schools pointing only to greater or less dependence on it. Possibly too the empiricist may be aiming too high; he may fancy that he is trusting to experience alone, and be all the while deluding himself. I have little doubt that this is more or less true of the earlier votaries of the creed” (p. 134). If this is so, then the older distinction of Empiricism, on the one hand, as over against “Apriorism,” Transcendentalism, Intuitionism, is no longer adequate to express the issue. “If I do not greatly mistake, the most definite contrast between empiricism and its opposite stateable at the present stage is that intuition, to whatever length it may be *suggestive*, is in no case *valid* without the confirmation of experience. The empiricist may not quarrel with intuitive or innate ideas; his quarrel is with innate certainties” (*ibid.*). The empiricist position is then defined in the body of the paper under the several heads of Epistemology, Cause — Uniformity of Nature, Perception of a Material World, and Thought and Reality.

Under the first head Professor Bain defines the empiricist contention as declaring that there is no need of a separate group of ‘innate ideas,’

universal forms of synthesis, transcendental principles, in order to explain the origin, nature, and validity of knowledge. "The Kantian 'forms' . . . are met by the empiricist's assertion that all ideas may be accounted for by our ordinary intellectual powers, coöperating with the senses. . . ." The empiricist accepts "the amendment of Leibniz—*nisi intellectus ipse*." "Nay, more—he would also postulate, as being equally co-present, all the emotional and volitional workings of the mind; and, having done so, he would endeavor to dispense with *every other pretended source of our ideas*" (pp. 135 f. *Italics mine*). In our knowledge "the particular and the general, in their ultimate nature, must move together. . . . If it were said that mere sensation . . . could not do all this, the objection must be allowed. But sensation does not work in pure isolation; it is backed by the entire resources of the intellect . . . When . . . all such forces are allowed for, I am at a loss to perceive the difficulty" (pp. 138 f.). Now this statement manifestly shows an appreciation of the force of modern criticism of the empiricist theory of knowledge, but shows this rather in its distribution of emphasis, and its explicit recognition of all the factors involved in knowledge, than in any difference of principle as compared with the empiricism of Locke and Hume. This very fact, however, gives to Professor Bain's discussion an importance which might not attach to it, taken simply as a chapter in the history of empiricism. It suggests the question whether the currently accepted criticism of empiricism is really sufficiently conscious of its own meaning, and, accordingly, sufficiently explicit in its utterances to render the empiricist position no longer respectable or tenable. Thus, we should venture to say in reply to Professor Bain's statement, as given above, that no one, nowadays at least, seriously regards the "Kantian forms" as other than abstracted phases of the intellectual, emotional, and volitional "workings of the mind," that the construction of them which he has suggested involves a misconception of the essential meaning of Kant and the 'Neo-Kantians.' But is it clear that the Neo-Kantians have entirely freed themselves from the master's uncertainty as between (1) the pure conceptions and the pure principles of the understanding as abstract presentations of modes of intellectual functioning, and (2) these same things as substantive 'elements' having a certain stateable content as pure knowledge in abstraction from experience? Our objection to Professor Bain's revised and articulate empiricism would, in this controversy as above, transfer itself to the province of psychology, and there press for an explanation of the functional relations which subsist, as he conceives them, between

"our ordinary intellectual powers" and the "equally co-present . . . emotional and volitional workings of the mind." The essence of empiricism, Professor Bain declares, lies in its test of validity, viz., "consistency, or the absence of contradiction, throughout a sufficiently wide range of conscious experiences" (p. 142). The 'Kantian,' one might suppose, would willingly accept this criterion; but he would like to know how wide a range of experiences is a 'sufficiently' wide one, and what are the meaning and the requisite psychological conditions of an agent's recognition of 'inconsistency' or 'contradiction' between a hitherto accepted universal judgment and a judgment of particular fact. Professor Bain's discussion of empiricism under the three remaining heads of the paper still further illustrates his interpretation of universals as more or less insecure judgments of fact, rather than as formulated working postulates whose proper claim is not so much that they are true as that they aid in the discovery of truth. This problem of universals would appear to be the ultimate problem at issue between "empiricism and its opposite."

The next four papers are severally entitled "Physiological Expression in Psychology," "Pleasure and Pain," "Definition and Problems of Consciousness," and "The Respective Spheres and Mutual Helps of Introspection and Psycho-Physical Experiment in Psychology." The first is, in the main, a protest against the "subjective purism" of Dr. Ward, Dr. Stout, and Mr. Bradley. The last is an interesting and judicious discussion of its problem read before the International Congress of Experimental Psychology held in London in 1892. The volume is brought to a close with the two papers first mentioned by title above.

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## SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Am. J. Th.* = *The American Journal of Theology*; *Ar. de Ps.* = *Archives de Psychologie*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mèt.* = *Revue de Métaphysique*; *Rev. Néo.-Sc.* = *Revue Néo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *R. d. Fil.* = *Rivista di Filosofia e Scienze Affini*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych. u. Phys.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*. — Other titles are self-explanatory.]

### LOGIC AND METAPHYSICS.

*Kant und die naturwissenschaftliche Erkenntniskritik der Gegenwart.*  
(Mach, Hertz, Stallo, Clifford.) H. KLEINPETER. *Kantstudien*, VIII,  
2-3, pp. 258-320.

The author proposes to give a general interpretation of Kant's epistemology, a criticism of this from the standpoint of modern scientific theory, a statement of such of Kant's principles as have positive value, and an account of recent progress in epistemology. To Kant the mathematics and mathematical physics of his day were the ideal of science. Since then a new conception of the essence of science has arisen. Mathematics led the way, and the revision of its fundamental principles still proceeds. The epistemology of physics has changed even more radically; not one of Kant's *a priori* principles of natural science is now unquestioned, not even the persistence of matter. The traditional logic is now seen to be wholly inadequate. Thus Kant's presuppositions have fallen away. Kant is a dualist: the existence of things-in-themselves, in the sense of naïve realism, he accepts uncritically; hence arises for him the problem of knowledge. His answer is three-fold: That things-in-themselves are as such unknowable; that we can know phenomena, and in part *a priori*; that we can also rightly infer the truth of certain metaphysical ideas, though we cannot know them as we know phenomena. We can know the phenomenal world, because we have a part in its origin; and this fact is logically necessary, because without it nothing like experience could come to pass. Kant's thing-in-itself is a mere hypothesis; all that is given us is the psychological elements or rather complexes of these. The transcendental nature of space is a mere unsupported assertion. There is no ready-made space-perception; it perfects itself only with time. Haptical, optical, and geometrical space are diverse. Space is a concept, a product of abstraction. The possibility of geometry rests simply on the power to construct spatial images and investigate their properties. How far these images correspond

to reality is for experience to decide. In the Analytic, Kant assumes an ideal logic, as formerly an ideal mathematics. The table of the categories omits the most important concept-forming functions. Kant rightly shows that the activity of understanding is necessary to the conception of an object, and hence that the conception of an object must be unchangeable on its formal side ; but he wrongly concludes that experience is possible only under certain *a priori* determinations. The conception of an object is not essential to experience. The given is not the object but the sensation complex ; the rest is hypothesis. The Analytic of Judgments adds nothing to the argument. Particularly in the account of causality there is retrogression from Hume. Kant gives no criterion between the causal judgments of science and those of superstition. The Dialectic is of no present significance, because we now dispense with the notion of an undetermined. Besides, Kant assumes an infallible reason shared in by all men, an assumption that we do not make. Kant has had great influence on the development of the epistemology of natural science, as represented by Mach, Pearson, Stallo, Hertz, Cornelius, and Clifford. These men follow him in his criticism of the older ontology, while rejecting his own unjustifiable metaphysics. In affirming the ideality of the phenomenal world, they even go beyond Kant to Berkeley. They recognize the self-activity and freedom of thought. While rejecting the categories as such, they hold that our concepts are creatures of our minds, subject to mental laws. They go beyond Kant in affirming that the causal connection may be variously established by the mind. They accept an *a priori* (as in the most general principles of physics), but not in Kant's sense as before all experience and independent of it. These principles are in part axiomatic because mere definitions. The fundamental ground of difference with Kant is the rejection of the Platonic ideal of science as confined to universal and necessary truth. Science is a human product ; it has, therefore, its end, namely, to spare us direct experience. The certainty of direct experience is confined to the moment and the individual. Science makes available the experience of others and our own former experience. The conclusions of science are universal and necessary for all who accept its presuppositions ; but to this no one is forced. Of two rival theories (both being logically correct), that one has higher worth which mediates in the simpler way the knowledge of the facts. The certitude of science is, of course, never equal to that of direct experience. Mediate knowledge rests on the acceptance of certain fundamental propositions. The direct experience can only show their incorrectness, not their correctness ; they are, therefore, within limits, arbitrary.

THEODORE DE LAGUNA.

*The Refutation of Idealism.* G. E. MOORE. Mind, 48, pp. 433-453.

It is intended to show that the proposition *esse est percipi* is false in all the senses ever given to it, especially the idealistic. If *esse* is *percipi*, whatever is, is indeed something mental ; but not in the sense in which



reality is mental for the idealist. That sense is, that *esse* is *percipere*; this, however, has always been proved by using the premise that *esse est percipi*. This proposition contains three very ambiguous terms. *Percipi* originally meant sensation only, perhaps; for modern idealism, it includes thought, and it may be here conveniently understood as referring to what is common to sensation and thought. As for the copula *est*, it may have three meanings: (1) That *esse* and *percipi* are precise synonyms; this does not need refutation; (2) that what is meant by *esse*, though not absolutely identical with what is meant by *percipi*, yet includes the latter as a *part* of its meaning. On this statement, the reality of anything would consist in its being experienced and something more besides. This meaning is important only if the third possible meaning is valid, viz.: (3) That wherever the other properties of reality are present, *percipi* is also present, and may be inferred from them. *Esse est percipi* would thus be a necessary synthetic proposition. Understood as such, it is not refutable. But what the idealists maintain is, not that it is such, but the proposition that whatever is experienced is necessarily so; the object of experience is inconceivable apart from the subject. And it is probable, in spite of their disclaimers, that they hold this principle because they believe it to be proved by the law of contradiction alone. They fail to see that subject and object are distinct at all. Many would object to this, and say that they held only that, while distinct, they form an inseparable unity, and that to consider either by itself would be to make an illegitimate abstraction. But abstractions are illegitimate only when that is asserted of a part which is true only of the whole; Hegelians and others, however, use this principle to show that, when we try to assert anything whatever of part of an organic whole, what we assert can only be true of the whole. This is necessarily false. Leaving the question: 'Is *esse percipi*?' let us ask: 'What is a sensation or idea?' Let us call the common element in sensations 'consciousness,' and that in which they differ the 'object' of sensation, without for the present attempting to define the meaning of either term. The question then arises whether, when, *e. g.*, the sensation of blue exists, it is the consciousness which exists, or the blue which exists, or both. These three alternatives are all different, so that to hold that to say 'blue exists,' is the *same* thing as to say 'both blue and consciousness exist,' is self-contradictory. But the consciousness must exist in every sensation as a mental fact, so that either both exist or the consciousness exists alone. Hitherto the universal answer to this alternative has been that both exist. The 'object' has been regarded as the 'content' of a sensation or idea, one 'inseparable aspect,' the other being 'existence.' What does this mean? Blue, for example, is part of the content of a blue flower. If it is part of the content of the sensation of blue, it must have to 'consciousness,' the other element the sensation contains, the same relation it has to the other parts of the blue flower. It is then here, as in a flower, the quality of a thing, in this case of a mental image. But this traditional analysis does not correspond

to the fact. The common element in ideas is just what we have called it, consciousness or awareness, and to be aware of blue is not to have an image in the mind of which blue is the content. The awareness has a unique relation to blue, and this, the very same unique fact which constitutes every kind of knowledge, has been neglected in the prevailing content theory, because philosophers have had no clear conception of what consciousness is, it being much more elusive for inspection than the 'objective' element in sensations. In knowledge we transcend the circle of our mere experience; we know objects, not mere contents. Nothing we experience is an inseparable aspect of our experience, and the assumption that *esse est percipi* is utterly unfounded. If 'objects' were merely inseparable contents, solipsism could never be disproved. If, on the other hand, we clearly recognize the nature of that peculiar relation called 'awareness of anything,' the question for us is not: 'Why external real things?' but rather: 'Why not external reals, since there is the same evidence, awareness, for their existence as for that of our sensations?' The only reasonable alternative to such a dualism of matter and spirit is absolute scepticism.

EDMUND H. HOLLANDS.

*La logique et l'expérience.* F. LE DANTEC. Rev. Ph., XXIX, 1, pp. 46-69.

The notion that mind or intellect is an implement of a superior kind, and that the perfection of its functioning is an *a priori* truth, is inadmissible from the biological point of view. The biologist regards mind as a result of evolution, and, therefore, as possessing no absolute value. Logic is simply the *résumé* of ancestral experience, the outcome of centuries of contact between our ancestors and the external world. This admirable mechanism is not a divine gift, but has become what it is through the accumulation and transmission of acquired characteristics. It is on a denial of this biological view of intellect that M. Poincaré bases his *La science et l'hypothèse*. A corollary of the position that M. Poincaré opposes is that geometry is an experimental science, and yet is neither approximate nor provisional. This thesis M. le Dantec attempts to establish by a criticism of M. Poincaré, and by a study, from the biological point of view, of human experience, ancestral as well as personal. The assertion that geometrical conceptions must be *a priori* because these conceptions, *e. g.*, the straight line and perfect circle, are ideal and not met with in experience, can be made only when we overlook the fact that our knowledge is determined by our human needs and powers. I can conceive perfect lines and surfaces because I have seen them. And if the microscope reveals the imperfection of these lines and surfaces, the fact remains that they present themselves as perfect to our unassisted observation.

M. S. MACDONALD.

*The Definition of Will.* III. F. H. BRADLEY. Mind, 49, pp. 1-37.

Several difficulties regarding the author's definition of will are here discussed. The first objection, that various typical volitions are irreducible,

is answered by showing that in each case the volition consists in the self-realization of an idea, and that the various types differ only in the content of the idea. (a) Thus in Imperative volition the idea includes both the production of an act by another, as end, and the manifestation of my will to him, as means to this end. (b) The alleged Hypothetical type of will as conditional volition is not admitted. The Disjunctive will, if it exists, is the self-realization of a disjunctive idea, but is not disjunctive in its volition. (c) In Negative volition the idea to be realized is that of destruction or removal, and hence is positive. The relation of desire and aversion is next discussed. Desire, while negative in the implication of change in existing conditions, is predominantly positive. In aversion, on the contrary, the negation of that which is, constitutes the main end. The mistaken coördination of desire and aversion has arisen partly from transferring to them the opposition of the coördinates, pain and pleasure. This is confusing, since in desire, although the idea is pleasant, the content of the end need not contain pleasure. In aversion, also, some pleasure must be felt in the idea of the change, although the object itself is qualified by pain. Hence a transformation of desire into aversion is possible, and *vice versa*. From this point of view, the possibility of willing that to which we feel aversion must be denied. For, so far as will exists, the positive idea has prevailed, and aversion has become subordinate. It is, of course, possible to will or desire that to which we are averse, for this implies an actual aversion no more than a permanent will or disposition to act involves an actual volition. Against the argument that all desire contains conation, it is answered that conation is not proved to be essential to volition because the two are related in origin. Wish is a specialized form of desire whose object is imaginary, and hence can be regarded as attained. The means by which the idea in volition realizes itself is next discussed. To deny that the will is a causal factor in the production of the action is to reduce will to mere illusion. Desire and conation, since not found in all volition, cannot explain the result. Nor can pleasure and pain produce volition, for (a) they are not always present; (b) they are not identical with desire and aversion; nor (c) can they explain the detail of will. The actual machinery by which the idea is realized is found in the redintegration of a psychical disposition. Through experience of an originally physical disposition, the result of the process becomes qualified by feelings connected with its beginning, and hence the suggestion of these feelings tends to initiate the realization of the idea. The objection, that this account implies the sequence of a physical effect from a psychical cause, denies the real existence of volition, and is based merely on prejudice. A further objection, that it is not evident from this explanation why any idea should not realize itself, may be answered by referring to the fact of general inertia, the need of support in existing conditions, and the possibility that the idea of change may itself be so qualified as to preclude immediate realization. In the origin and growth of dispositions and habits, pleasure and pain are important factors, although they do

not enter the essence of volition. It may be objected that will cannot be based upon dispositions, since dispositions really rest upon will. But the attempt to trace dispositions to an origin in volition cannot succeed, for dispositions seem to be physical in origin, and hence not subject to psychological investigation. Finally, if it were possible to trace the origin of dispositions in the individual to pleasure and pain, it could not be concluded that pleasure and pain were essential to the definition of will.

GRACE MEAD ANDRUS.

*La raison et les antinomies.* III. F. EVELLIN. Rev. de Mét., XII, 2, pp. 241-258.

The author, continuing the treatment begun in previous articles on the Kantian antinomies, asks whether the idea of spontaneity can be reconciled with the demand of science for invariable law. Strict necessity and bare contingency are both abstractions. In the homogeneity of the primitive stages in reality, spontaneity appears as simple undifferentiated movement, uniform and therefore apparently necessary. This stage of expansion yields to one of concentration and individualization, ending in the first dim appearance of *liberty* in man. All through nature we find the expression in every being of two wills, the generic will to continue the form of the species, the individual will to continue this form according to its own conditions and desires. The generic will apart from the individual is a mere formula; the individual apart from the generic is mere caprice. Both are elements in all spontaneity, law being founded on the first, and the variation which science must recognize as real having its cause in the second. Abstract order is a geometer's dream; real order is composed of variety and harmony. Law is based on the fixed will of the species, the difference between the law and the facts finds its cause in the will, always ultimately free, of the individual.

EDMUND H. HOLLANDS.

*Auf wem ruht Kants Geist?* ERICH ADICKES. Ar. f. sys. Ph., X, 1, pp. 1-19.

Such a philosophy as that of Kant can never be appropriated as a whole by any other independent mind. Both the intellectual environment in which he lived and his own personal character contained many conflicting elements such as could never be identically reproduced. The rationalism of the Enlightenment was dominant in his thought as a whole, but occasionally yielded to opposed tendencies. This rationalism shows itself especially in the demand for universal validity which deprived his religion of individual adaptiveness, made an ideal of mathematical form and method, and prevented the acceptance of Hume's causal theory. Kant was forever compromising between his theoretical conclusions and the needs of his feeling and willing nature. It is in his inconsistencies as a thinker

that his human character is revealed. No other thinker could support just such inconsistencies as Kant's. Nor, after giving up the system as a whole, can one fairly claim to be thinking and teaching as Kant would do under the altered conditions of to-day; for of what character his life-work would be to-day no man knows. To be a Kantian in the wider sense of the term, — to carry on this or that tendency of his and transform it in accordance with present needs, — is scarcely more or less than to be a philosopher at all.

THEODORE DE LAGUNA.

*Helmholtz in seinem Verhältnis zu Kant.* A. RIEHL. Kant Studien, IX, 1 u. 2, pp. 261–285.

Helmholtz was the first to revive interest in Kant by calling attention to the agreement between the results of the Transcendental Æsthetic and those of the modern physiologico-psychological theory of sensuous perception. But it is not in the physiological interpretation of Kant, now recognized as inadequate, that the significance of Helmholtz for philosophy is to be sought, but rather in his reassertion of the close relationship between philosophy and science, which had been broken by the speculative systems of Schelling and Hegel, by recognizing the peculiar domain of a discipline which had been placed under suspicion by the exaggerated claims of the Identity Philosophy. Philosophy with Helmholtz was identical with epistemology, and its rights in that domain he asserted again and again. He emphasized, in the spirit of Kant, the distinction between metaphysics and philosophy; for by metaphysics he understood "that so-called science whose purpose it is to discover, by pure thought, the final principles which are to explain the world." There is also a metaphysics in science, but Helmholtz is no materialist, and he censures the "tirades of Vogt and Moleschott," and those naturalists who have taken the traditional scientific conceptions of matter, energy, and atoms, and have made them mere metaphysical catchwords. Helmholtz approaches the Kantian doctrine most nearly in an early sketch which contains the first outlines of his philosophy. A twofold task of science is distinguished: (1) The ordered review of the empirical, and (2) the formulation of concepts from which the particular perceptions may be deduced, concepts which are declared to be universal and necessary forms of all perception of nature. Practically the same views are expressed in the treatise on the conservation of energy, published a little later, at the age of twenty-six, but Helmholtz refers to them in later life as having been influenced too strongly by the epistemological doctrine of Kant. While the differences between his early and his later views are not so great as he thought, it is true that his doctrine of causality approached more nearly to that of Hume and Mill than to that of Kant. The reasons for this change of attitude toward Kant are to be found in his physiological interpretation of the critical philosophy, in the comparison which he draws between the forms of perception and thought and Müller's theory of the specific energy

of the senses. This way of regarding the *Critique* led to a misapprehension. All the emphasis was necessarily placed upon the subjective origin of knowledge *a priori*, while Kant's purpose was to prove the objective validity of this knowledge *although* it was *a priori*. Of the two objections Helmholtz brings against Kant's doctrine of space, the first, namely, that the axioms which determine the idea of space are not necessities of thought, is entirely in the sense of Kant, and the second, that the axioms of geometry cannot be admitted to be grounded in the given form of our faculty of perception, does not disprove but rather confirms his position. The argument of pseudospherical space has not been made out. Original endowments play less and less part in Helmholtz's theory of knowledge until impulse and reflex movements alone remain. Increased emphasis is placed on the concept of uniformity in order to explain the correspondence between thoughts and things, cause and energy. Helmholtz's later doctrine of connotations, his argument against the syllogism, and his 'permanent possibilities of sensation' show clearly the influence of Mill.

EMIL C. WILM.

#### PSYCHOLOGY.

*On the Definition of Psychology.* JAMES WARD. Br. J. Ps., I, 1, pp. 3-25.

Though the question is of prime importance to all students of philosophy, a precise definition of psychology has never been formulated. The history of psychology shows three attitudes toward mental phenomena: (1) The unduly objective attitude by which mind is identified with life; (2) the unduly subjective, by which mind and body are completely separated; (3) the more mature balance of the two former in the concept of concrete experience. Aristotle is the chief representative of the first attitude. The soul is, for him, the form of the body. His conception corresponds closely to the modern biological notion of function. Even the passive intellect he regards as in close relation to the organism, though he holds that there exists also an active intellect by which man participates in the divine. Descartes is the representative of the subjective psychology. He began by regarding mind and matter as two incompatible substances, and restricted psychology to the immediate facts of consciousness. His rationalism, however, led him into analytic distinctions and away from concrete facts. The complete dualism of his system left no way of explaining the actual connection of mind and body except by an appeal to the deity. Descartes failed to see that objectivity is a necessary condition of conscious experience, and that the separation of the two is an abstraction from concrete reality. We must, therefore, reject all definitions of psychology as the science of 'mind,' or the science of the 'internal sense.' Psychology deals with the subjective standpoint of individual existence, but this means the standpoint of the living subject in intercourse with its environment.

Physical science deals with the aspects of experience which are common to all individuals. From the standpoint of psychology, the life of the individual is seen to be mainly volitional and emotional, a fact which was overlooked by the prevailing intellectualism of psychology before Kant. Cognition and perception are now seen to be instruments for the guidance of volition and action. For the definition of psychology the term 'experience' is preferable to the more common term 'consciousness,' because the latter does not sufficiently recognize the duality of subjective and objective, and consequently leads to ambiguity. Since we know no experience except our own, analytic psychology must precede genetic.

GEORGE H. SABINE.

*An Inquiry into the Nature of Hallucinations.* BORIS SIDIS. Psych. Rev. XI, 1, pp. 15-29 ; 2, pp. 104-137.

Every normal percept is composed of a sensory nucleus and a mass of secondary elements which are organically related to it. The nucleus is the prominent and vivid portion of the percept, the portion corresponding to direct peripheral stimulation ; the other elements, though indispensable, may vary considerably without vitally affecting the quality of the percept. These secondary elements are not representative memory images, because they fuse with the nucleus and are sensory in character. Thus, we visually perceive hardness and smoothness. Yet they are not really sensations, for there is no external stimulus to correspond to them. They must be described, therefore, as secondarily sensory, and as forming an intermediate stage between real sensations and representative ideas. Physiologically, it may be assumed that these perceptual complexes correspond to the functioning of organic complexes of psycho-physical elements associated with a central nucleus. Hallucinatory perception arises from the dissociation of these secondary sensations from the nucleus of the percept. In pathological cases the directly stimulated portions of the percept frequently disappear entirely from consciousness, and the secondary sensations, together with other associated material, appear as the hallucinatory perception. These facts are opposed to the view that hallucinations are ever of purely central origin. They point to the belief that hallucinations are always of peripheral origin, and are to be regarded as complex cases of secondary sensations from which the primary sensation is dissociated and put into the background of consciousness. The dissociation and subexcitation of the secondary elements are the central conditions of hallucination ; peripheral stimulation supplies the nucleus around which the secondary elements crystallize. The dream consciousness is an example of hallucinatory perception. Here a direct sensation (usually coenæsthetic) associates with it systems of secondary sensations almost at haphazard, though the associated system must have some slight degree of congruence with the primary sensation. The dream consciousness shows many of the

characteristics of the mental dissociation found in serious mental disorders ; insane hallucinations are in many respects waking dreams. The intense reality which attaches to hallucinations arises from the sensory character of their contents, for, under ordinary circumstances, the senses are, so to speak, our points of contact with reality. Any state of mental dissociation, like light sleep, favors the formation of hallucinations. The theory of the central arousal of hallucinations rests on the fallacy that an ideational element, by increase of intensity, may become sensory, a view which is untenable on both psychological and physiological grounds. The theory of dissociation explains also the phenomena of double thinking, in which the patient hears his thoughts uttered aloud by an external voice. This is due to subconscious whispering of the thoughts and to the consequent stimulation of the auditory centers. The merely central and the merely peripheral explanation of these cases are alike inadequate.

GEORGE H. SABINE.

*Verstehen und Begreifen : Eine psychologische Untersuchung.* II. HERMANN SWOBODA. V. f. w. Ph., XXVII, 3, pp. 241-295.

Expression, which, as has been pointed out, has primarily a subjective significance and is only secondarily a means of communication, may be described generally as a secondary excitation in the motor centers or in any other part of the nervous system. In many cases the kind of excitations and the excited field are not dissimilar in different persons, *i. e.*, the movements have become conventional as gestures. The primary excitations and the objects of expression are feelings. How feelings are transferred may be illustrated by the art of music. It is often denied that music has content ; its whole content is said to consist in its form. Opposed to this claim of the theorists is the testimony of artists themselves, on the one hand, and of hearers, on the other, to whom music is a revelation such as no language has power to impart. But it is easy to attach too much importance to the feeling of the artist or the hearer. For the artist probably undervalues the intimate relation of his work to his whole personality, and ascribes the service it renders him to its objective quality ; the dilettante is often perplexed because a song into which he has 'thrown his whole soul' is utterly without effect on others. And, in the case of the hearer, the effect that a piece of music produces on him depends upon a whole series of circumstances with the production of which the music has nothing whatever to do ; this is sufficiently apparent when we consider that the effect is often very different. Music is, of course, a means of expression, because it is often influenced by feeling ; but this is represented in its form. The characteristic form elements of a feeling are transferred to a definite presentation field. To illustrate : The complex 'love-longing,' which is to form the content of a composer's piece, and which may be represented by a curve showing the rise and fall of feeling, has characteristic form elements which are taken up by the form elements



produced by the various devices known to the musical artist. Expression may be defined physiologically as the uniforming influence upon the more sensitive of two nervous fields simultaneously excited by virtue of the intimate connection of the whole nervous system and its economical nature. The stronger and more persistent the excitation, the more uniforming the influence; hence the testimony of great composers that, if they only hold before them clearly and definitely a given feeling, the musical elements of a composition take form quite spontaneously. For power of expression, as distinguished from designation or description, spoken language has a great advantage over the written symbol by reason, again, of the greater mobility of its form. The symbol, or in spoken language the mere articulation, communicates the thought (designation); the modulation of the voice expresses the feeling which the thought produces; it is the commentary of the emotions upon the propositions of the intellect. The power of expression is far less in language than the power of impression; for while it serves the subjective needs of the speaker or writer only indifferently, it is able by virtue of its power of designation to produce the conditions of feeling, the psychical situation, from which the feelings will emerge of themselves. Understanding has heretofore been used synonymously with apperception; but when we come to the understanding of predication, an important distinction must be made. The traditional treatment of apperception has not sufficiently distinguished between apperception of objects and that of predication. While an object is a thing apart, a predication is a part of a greater whole, and it has meaning only in its relation. If a predication is to be understood, it is not so important to establish a relation between it and the hearer, as to establish in him the same relation as exists between it and the person making it. Apperception means the reception and modification of a percept by my peculiar mental content, which, in the case of predication, can mean nothing else than to misunderstand it. To understand it means to construct from my own psychical material the mental content of the speaker. Apperception and understanding can be identical only if the mental contents of two individuals are the same. According to Avenarius's theory of the vital series, to understand a thing means to include it in the series; to misunderstand it means not to include it in the series; and the whole meaning of a predication will depend upon the place in the series which it occupies. A sure criterion by which to determine with what section of a series we have to do is the feeling by which it is accompanied. The initial section (vital difference) is accompanied by feelings of pain; the medial section, in which we are groping about for solutions, by feelings of uncertainty, unclearness; while the conclusion of the series is accompanied by the pleasurable feeling of relief. A predication in the initial section, in order to be understood, needs only to contain a designation of the circumstances which brought about the vital difference. Understanding of the medial section demands the vital difference belonging to it, which is also the case in the final section of the series.

EMIL C. WILM.

## NOTICES OF NEW BOOKS.

*Naturalism and Agnosticism.* The Gifford Lectures delivered before the University of Aberdeen in the years 1896-1898 by JAMES WARD. Second edition. Two volumes. London, Adam and Charles Black, 1903.—pp. xx, 333 ; xiii, 301.

This second edition of Ward's well-known Gifford Lectures is distinguished, first, by a number of minor corrections in the text ; thus, *e. g.*, in place of  $x^0$  and  $x^{-n}$  as symbols of "indeterminate" forms, we have now, correctly,  $\%$  and  $\infty/\infty$  (II, 148), and in place of having the St. Lawrence (!) pitching over Niagara Falls, we have now, quite safely, "the full volume of the river" (I, 208). Secondly, the references in the footnotes are made exact ; in particular, the numerous references in Spencer's *First Principles* are now made to the sections as well as to the pages of the earlier editions, as well as to the sections corresponding, but differently paged, in the more recent revised edition. Thirdly, there is appended to each volume a number of notes, explanatory and controversial, dealing especially with the more important published criticisms of the work. As there is no modification of any point of doctrine, the chief interest of this new edition lies in these notes.

The longest of the supplementary notes (I, 303-315) discusses the defence of physical realism undertaken by Principal Rücker in his Inaugural Address as President of the British Association in 1901 in opposition to the view of Ward and others, that our developed physical conceptions, so far from leading to ultimate reality, are merely an intellectually manageable descriptive scheme substituted for the incomprehensible complexity of concrete facts. This 'symbolic' view of our ultimate physical conceptions, which, if correct, completely undermines the foundations of the mechanical theory as a dogmatic system, was absurdly interpreted by some of Ward's critics as a flagrant attack on science itself. In reply, it is shown that the view in question is not only held by many eminent workers in science at the present time, but is virtually conceded in the end by Principal Rücker himself ; for he too admits that the realistically thought constructions of atoms, the ether, etc., are only 'working hypotheses,' for which other hypotheses, more suitable, may conceivably, in the course of time, be substituted. In Ward's view the process of modification or substitution is actually going on ; he points, for example, to the new 'energetics.' And as against the dogmatism of the mechanical theory, the argument is conclusive. The physicist, as physicist, has a natural motive for regarding his conceptions as real, so long, at least, as they work ; he has surely, however, no good motive, in view of the history of science itself, as well as in view of reflection on thought as a function of the organization of a develop-

ing and many-sided experience, for putting forth his conceptions as the foundation of an ultimate philosophy.

There is an important series of notes (I, 327-333) on the principles of organic evolution, in which the author defends his doctrine of "subjective selection"; an interesting and straightforward reply (II, 291) to the criticisms of Bradley and others on his doctrine of activity; also a note (II, 293) of exceptional clearness and force in reply to certain criticisms of Professor A. E. Taylor and the late Professor Ritchie on his doctrine of contingency and freedom. Finally, there is a large number of notes (I, 317-327) dealing with the controversy with Spencer.

In the original lectures, Ward had criticised Spencer, among other reasons, for applying his doctrine of evolution to the universe as a single object, for teaching that there was an alternation of evolution and dissolution in the totality of things, and for maintaining, — to get the evolutionary process at work, — the essential instability of the homogeneous. The criticism was published in 1899. In December of that year, Spencer replied in an article in the *Fortnightly Review*, and in the following year published a revised edition of the *First Principles*, which had appeared unchanged in a stereotyped edition for thirty years, and in this new edition quietly modified or suppressed all the most damaging passages cited by Ward in his contention. Then, in an appendix of five pages dealing expressly with Ward's criticism, he roundly charges the author with following the usual course of controversy, namely, setting up a man of straw in order to knock him down! It is to be regretted, in view of these changes of position, that so large an amount of space was devoted to Spencer in the lectures. Doubtless, if Ward were writing them now, the treatment of Mr. Spencer would be very different. But with the text and the notes as mutually explanatory, it is perhaps just as well that the original criticism should stand as illustrative of Spencer's intellectual shiftiness and controversial methods. In addition to the criticisms here offered by Ward, it may be remarked that, in spite of the suppressions in Mr. Spencer's new text, some, at least, of the old ideas still inadvertently linger as, *e. g.*, §186, p. 497, where a formula is desiderated "equally applicable to existences taken singly and in their totality," "to the whole history of each and to the whole history of all."

The notes in this second edition are to be cordially welcomed as enhancing the value of a book that already ranks among the most important contributions to recent British philosophy. They will add to the author's established reputation for keen and subtle dialectic; still better, they will serve to clear up not a few of the most disputable points in the discussion of the matters treated in the lectures.

H. N. GARDINER.

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*Religions of Authority and the Religion of the Spirit.* By AUGUSTE SABATIER. Translated by LOUISE SEYMOUR HOUGHTON. New York, McClure, Phillips, & Co.—pp. xxxii, 410.

This work was completed by Dean Sabatier only a few months before his death. It was not revised by him for publication, and its form, which its editors preferred to leave unchanged, is not without defects. There is a certain amount of repetition; the order, too, would admit of some improvement. Yet these defects are not very serious. The thought of Dean Sabatier is generally precise and luminous; his exposition is singularly clear. His style is epigrammatic; one might perhaps say of him what he has said of Lessing: his mind is like a diamond which not only cuts but sparkles. The work, moreover, may be taken to express his most mature and cherished convictions; on its completion, he said to his wife it "must come out *whatever happens*."

Sabatier accords ample recognition to the function of authority, provided that function is rightly understood. The individual life is determined not only physically, but morally and intellectually, by the collective life in which it is found. The authority of the family, of the school, of the church is a conservative and educating potency. But the pedagogic function of authority, which is its justification, is also its limitation. "Like every good teacher, authority should labor to render itself useless." Through authority the individual and the race should develop autonomy. Not that authority can ever be abrogated; but it must be brought under the criticism of reason. It "is, and can be, no other than relative" (p. xxviii). But this is not the conception of authority which the churches have adopted. In religion authority has meant infallibility; there is an infallible Church, or Pope, or Book.

Sabatier's work is in large part a history of these conceptions. He has chosen this historical mode of treating them in order to exhibit their futility. As he reminds us, *Die Geschichte ist ein Gericht*. The immanent dialectic in the history of a doctrine exposes its contradictions. The churchly conceptions of authority find in their history their refutation.

In the development of the Roman Catholic dogma of authority, there can be traced separately the gradual exaltation of tradition and the growth of the episcopate. The tradition of the primitive church was in fluid form, consisting of the various narratives of Jesus's life. But by the stress of its conflict with heresies, and by other causes, the church was led in the course of the centuries to adopt the conception of an infallible doctrine, infallibly interpreted. The marks of this tradition were finally formulated: universality, antiquity, and the consent of all. But with the rise of modern historical criticism, trouble began; it was found impossible to maintain the immutability of the church's doctrine. Curiously enough, help came to the church from a Protestant source. Schleiermacher represented tradition as the soul of a religious society manifesting itself in ever new creations.

This conception was eagerly adopted by such Catholics as Moehler and Newman, and tradition was declared to be the reincarnation of Christ from generation to generation. But the infallibility of the tradition is preserved, Sabatier points out, only by a deification of the church in all its productions, and "to deify history is to deny it in its essence and reality" (p. 67).

The dogma of tradition, however, is in reality subordinate to the dogma of the episcopate. In the early church all believers were 'priests,' and the constitution of the individual congregations was republican. After a time the authority was vested in one *episcopus*. Then there arose a strife among the bishops, which of them was greatest; and the Roman, by virtue of imperial position and political wisdom, gained the supremacy. The combination of the conception of supernatural knowledge of truth with the conception of the supremacy of the Roman bishops finally resulted in the dogma of Papal infallibility. If any one denies the infallible authority or the supreme power of jurisdiction of the Roman Pontiff, let him be anathema.

But the irony of the history is manifest. As Canon Döllinger has said: "The Catholic believer will say, 'I believe in the infallible Pope because the Pope has said that he is infallible'" (p. 135). Moreover, the Papacy in presence of the great modern movements is in a dilemma. Not to speak of its political distress, it must, in the domain of thought, either forbid philosophical discussion, or accept it. In the former case, it will be treated to the disdainful neglect of modern science; in the latter, it will abdicate its prerogative of supernatural authority.

Protestantism started with a revival of the early Christian spirit. It rested on a subjective basis: the Bible was true, for it contained Christianity. But soon the Bible became an external authority; and every word, even the Hebrew vowel-points had to be regarded as inspired. Sabatier shows how historical criticism has worked havoc with this doctrine. The last bulwark of the system of authority is found in the words of Jesus; these, at least, it is said, are infallible. But, Sabatier asks, is there evidence that the account of these words is infallible? Moreover, some conservative theologians feel constrained to give up the infallibility of Jesus in regard to such matters as cosmology and demoniac possession.

The last part of the book contains a more explicit account of the author's view of true religion, the religion of the spirit. Jesus was the founder of this religion. Not that Jesus claimed for his person any metaphysical dignity; he lived this religious life, and in the consciousness of this called men to him that he might give them what he had in himself.

Thus faith is "God consciously felt in the heart, the inward revelation of God." Sabatier rejects as inadequate Schleiermacher's definition of religion as the feeling of dependence. "Divine law and human law are essentially identical. And it is this immanent law which . . . necessarily constitutes man at the same time dependent, in his character as a created being, and free, in so far as he is a moral and spiritual being. . . . Religion is the vital and happy reconciliation of dependence and freedom" (p. 321).

It is "the sentiment of this relation between the moral being and the law which governs him. For this it is not necessary to believe in God in the traditional sense of the word." Later in the work he says, with doubtful consistency, that the highest stage of religion is reached when God is revealed, not as a power or as law, but as love; religion then also takes the form of love (p. 374).

The relation of theology to the religious sentiment is discussed at some length. Faith precedes theology. The moral and intellectual elements in the act of faith are organically connected, yet the priority of the moral factor is insisted on. Pure abstract logic says that one must know before he can adore, historical psychology shows that in the first instance one desires, prays, adores, and thus comes to know, and that the definition of the object of adoration is drawn from the worship offered to it and the benefit expected from it (p. 353). Again: "It is by good right that Christians say that faith, the earliest manifestation of the life of the soul, comes from the immanent action of God. Man, therefore, receives life but makes his own belief." The character of this intellectual work is "always and necessarily subjective and contingent."

Theology can become scientific by adopting the method of observation and experiment, and by choosing for itself, as the other sciences have done, a well-defined field of study. The "section of reality which it is the duty of theology to study is the religious phenomenon in general and the Christian phenomenon in particular" (p. 348). "Theology, therefore, has two sources, psychology and history." It knows "no sources of information" beyond these.

There seems no place for philosophy or dogmatics. Yet it is said in another passage that dogmas are to be made intelligible and respectable (p. 358); and when it is added that account must be taken of the experimental knowledge of the universe gained by astronomy, geology, etc. (p. 361), there seems to be demanded, not a mere analysis of the religious sentiment, but a systematic philosophy.

Sabatier's initial error is in separating religion from cognition. Prayer, adoration, without some recognition of an object, is unintelligible. As religion means a conscious relation to an object, it is necessary it should know that object, or have a philosophy of it. The religious life may depend on other factors than philosophical cognition. But this cognition is, at least, one factor, and till it is fully attained, religion cannot reach its highest form.

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*L'unité dans l'être vivant* (Essai d'une biologie chimique). Par FÉLIX LE DANTEC. Paris, Félix Alcan, 1902.—pp. viii, 412.

Without attempting an exposition of the work as a whole, we may indicate certain chapters whose problems are of historic interest, such as the

numerous ones dealing with the definition of the individual organism and the species.

The author takes it to be a general principle of all classification, that "the definition of the species is qualitative, and the determination of the individual is quantitative" (p. 88). The analysis is not sufficiently close to enable one to say how the author would define the distinction between qualitative and quantitative relations; the important result for biological classification is that identity of chemical constituents is sufficient to establish qualitative likeness, while the proportions in which constituents enter give quantitative differences. There is, then, a common chemical quality in all individuals of the same species, with quantitative coefficients defining the individual (pp. 88 ff.).

Observe the place accorded to the fundamental variations that biology is obliged to recognize: variation of tissue, variation of individuality, variation of species. Imagine, namely, the chemical substances  $a, b \dots$  to enter with coefficients  $\alpha, \beta, \dots$  into groups, and these in turn to enter, with coefficients  $\lambda, \mu, \dots$  into the cell composition. The species of the organism is defined by  $a, b \dots$ ; the individuality by  $\alpha, \beta \dots$  which at any moment are the same in all the groups and all the cells of a single organism. The tissues are defined by the factors  $\lambda, \mu, \dots$  which have one set of values in the blood, another in the muscles, etc. (Chap. x).

On what factors do these variations depend? The variation of tissue must be conceived as a physico-chemical reaction of the embryo to its environment. It is conceivable, however, that this environment might so affect an organism as to alter its coefficients of individuality. As these are common to all the cells, the supposition requires that the reproductive cells be modified along with the others; a hypothetical basis for the inheritance of acquired characteristics is thus provided (pp. 57 ff., 150 ff.). Another way in which the coefficients of individuality are modified in offspring is through the composition of the factors belonging to true parent organisms (p. 68).

Are we, finally, to conceive these factors which modify the individual in a quantitative way as effecting, in time, a qualitative change, *i. e.*, variation of species? On this point the author is far from clear. For while admitting the possibility of such transformation (p. 100), while forced indeed to admit its actuality or else to deny common ancestry to different species, it would appear that all his studies of particular cases of transformation are within the species, *i. e.*, involve the quantitative coefficients only (pp. 149 ff.).

We may compare this chemical basis of definition with others. How, for example, do the tissues, individuals, species defined chemically, correspond to those of the usual morphological definitions? The correspondence is complete; for the form of an organism being nothing but its configuration of equilibrium in a given medium, and this being dependent on its chemical composition, there must be just as many morphological as chemical differences between organisms. In particular, it is the *inheritable*

form of equilibrium that is the best test for the coefficients of individuality, —it is this which enables us to distinguish a true individual from a colony (pp. 131 ff.). Finally, this chemical principle of classification yields the same result as the genetic, now commonly adopted. After a skilful display of the difficulties attending the reconstruction of family trees on the data of morphological resemblances, the author points out that the usual method of evading these difficulties depends on an unprovable assumption, to wit, that proximity of kinship is determined by the lateness of the stage at which the embryos develop differences. If we seek a basis of qualification that is free from this hypothetical factor, it must be found in the chemical. On this basis we can understand that those cells which have the greatest chemical analogy will be the last in the process of multiplication to develop noticeable morphological differences. The embryological method would still be the only practicable one, but it would stand for a delicate test of chemical likeness and difference, not relevantly, for a criterion of kinship (Chap. xv).

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*Vers le positivisme absolu par l'idealisme.* Par LOUIS WEBER. Paris, Félix Alcan, 1903.—pp. 396.

The main thesis of M. Weber's book is one which is familiar in recent philosophy. It represents the thoroughgoing repudiation of realism and ontology in all its forms. On the critical side, it has not indeed much to say that is particularly new; and while the arguments are acutely put, they have the defect, not uncommon in the particular type of thinking which they represent, that their force depends largely on having already accepted presuppositions which involve the point at issue. Nevertheless, the book is of considerable significance. Its grasp of principles and its clear-cut logic are admirable; and where it does not convince, it will at least make clearer some of the issues.

The main drift of the argument is indicated by the title. Historically, Positivism tends to regard reflective thought as sterile, and objective experience as the only valid source of knowledge. Is this opposition necessary? Or may not rather idealistic reflection be required to give a basis to Positivism such as empiricism is unable to give? The necessity for this basis the first chapter tries to show by retracing the story of modern empirical idealism. Reflective thought has, in the first place, undermined completely common sense realism. But the realism which science attempts to substitute is equally untenable. Full of self-contradictions, and incapable of being conceived positively save in psychical terms, the concepts of science are plainly not to be regarded as entities. Or, if we take their objects as unknowable, we simply have, in Agnosticism, a new and nebulous ontology, equally infected with the vice of realism. But now, while the outcome of science is thus idealistic, this idealism, if taken dogmatically, would mean



the triumph of scepticism. In such a negative ideality and relativism, science destroys itself. Through the need of transforming these negations into affirmations, science issues in Positivism and the Positivistic justification of law in terms of human action, — the interpretation of knowledge as *pre-vision*. Positivism is thus an attempt at a philosophy of science. But this utilitarian principle is incapable of being justified on the empirical basis. Positivism, nevertheless, in rejecting all knowledge not empirical as illusory, is, as a matter of fact, setting up a principle of authority. But since the only criterion it allows is practical success, it cannot give any universal foundation to scientific authority such as it requires. What sort of a principle is that which is subordinated to an incessant verification? The pretence of assigning the first rank to empirical knowledge, and granting it sovereign authority, is itself only an anticipation of experience, which contradicts empiricism. And so unless we admit, with Hume, that knowledge is submitted to the uncertainties of a becoming without law or principle, and undistinguishable from blind chance, we must find a metaphysical solution for the problem of the possibility of science. Positivism thus becomes, not a self-sufficient philosophy, but only the empirical introduction to the critical philosophy.

The second and third chapters examine the attempts of critical idealism and of monadism to supply this need, and endeavor to point out the lingering taint of realism which still vitiates these in their historical forms; and the remainder of the book is devoted to a constructive formulation of the true, *i. e.*, logical idealism. The real does not exist. There is no mode of absolute being, — call it thing, self, psychical fact, — outside of logical being, affirmed as such, and announced in discourse. The object of an idea is only another idea more immediate; the idea of an object is another object raised to a higher degree of reflection. Reality is the multiplicity of logical existences constituting science, whose unity is the unity of thought, identical in all its infinite manifestations. This is of course quite different from the reality of the self or subject. There is no reason why the subject, one idea, should have the privilege of conditioning the idea in general, — the finite become the principle of the infinite. All that remains of the independent real is simply the obscurity and opaqueness due to a meaning not yet made explicit. And since there is no external matter, there can be no separation between theoretical and applied science. The applications are simply science in action; they are the sciences themselves participating in human life under their various modalities.

The search for the real is then the real itself. Science is no completed system. It is only the history of science, its abstract side, which has this appearance; the concrete side is the living side, its existence in living minds. The difference between the *a priori* and the *a posteriori*, between analytic and synthetic knowledge, is only one of degree. The deductive ideal proceeds from the illusion that the truth of universal being can be enclosed in a particular proposition affirmed by a particular understanding.

We attribute a superior truth to the analytic proposition, because we are so intimately persuaded that the most perfect certainty is that of the individual subject, just as the supremacy of the empirical proof by the touchstone of fact is due to the belief in the independence of the not-self. Both methods alike are valid only by virtue of the principle of universal and necessary being. It follows also that each science is a special order of experience, which has its ground of certainty in itself. The Kantian explanation of experience is in reality a psychology of physics. But to go outside science itself for its justification is to admit that science is obscure and unintelligible. Reflection on the results of science performs the negative service of destroying the ontological signification of the judgments of science, but it does not touch the ground of scientific certainty. By establishing the principle that there is an object only for a subject, it shows that the affirmation of physical reality implies in advance an implicit intelligibility. But this does not replace physical knowledge. It simply adds a new science, a new system of affirmations. Psychology is a different order of experience, not an explanation of experience. The scientist, as a scientist, necessarily takes his results as reality ; and the only test of their truth is the way in which they fit into the system of ideas which constitute his science, in the process through which possible truth transforms itself into necessary truth.

In this *a priori* certainty of the adequation of being to the thought which creates it, we have the principle which Positivism lacks. The objection of Positivism to the transcendent character of metaphysics no longer holds against this point of view. Metaphysics does not supplant science. It only denies the extra-scientific interpretation of scientific judgments. In the nature of the case, it can only be a logic. It will thus give a reconciliation of the universal relativity of knowledge and the absolute necessity of being. The principle of necessary being, — the principle of the essential unity of being in all degrees of reflection, — teaches nothing about the real multiplicity of being. This is why the category of relativity maintains its importance, — relation, in the sense in which it stands for the very life of thought, its inner characteristic of infinity. This is quite the opposite of scepticism, though it involves, of course, a new conception of truth. Instead of the conformity of the idea with its object, truth is the conformity of thought with itself, of thought which is realizing itself with thought realized. There is no absolutely definitive way of discerning truth and error in the particular positive sciences, just because no particular judgment can enclose absolute truth. We cannot tell whether synthetic truths will always be the same, whether their signification will not change. But what we do know with entire certainty, is that their negation will be possible only by a larger, more coherent, and more intelligible affirmation.

An adequate criticism of the book would take more space than is available here. Incidentally, however, attention may be called to the exaltation of the purely scientific experience, which is assumed somewhat too lightly to

represent the essence of the life of spirit. The few passages which recognize the need of clearing up the connection between science and practical life are decidedly schematic, not to say obscure; and the insistent problem of the relation of knowledge to other, *i. e.*, emotional values is quite ignored. Perhaps a less exclusively logical interest might have led to a less secure conviction of the sufficiency of certain of the presuppositions of the argument.

A. K. ROGERS.

BUTLER COLLEGE.

*Beiträge zur Entwicklung der Kant'schen Ethik.* Von KARL SCHMIDT. Marburg, N. G. Elwert'sche Verlagsbuchhandlung, 1900. — pp. 105.

This study traces the development within Kant's writings of the conceptions prominent in his ethical theory. Thirty-five pages are given to the examination of the precritical writings, and sixty pages to the *Critique of Pure Reason*. The author has no particular thesis to maintain. He conceives his task as entirely expository, and couches his expositions largely in Kant's own words. This work is one which has been done before. At the same time, Dr. Schmidt's contribution is a helpful one. He seizes upon practically all of the ethically significant points of the works discussed, presents them with clearness in their relations to the developing ethical theory, buttresses them with quotations in such a way as to make his interpretations convincing, and delivers the whole within a very manageable compass. So far as any bias or tendency shows itself in the work, it is that of finding within Kant's early writings nearly all the main ideas of the critical ethics. The essays produced in the years immediately following 1760, for instance, are made to reveal in simple statement the larger part of what is later developed in detail. In one or two cases I have found Dr. Schmidt's interpretations of these earlier passages weakly supported, for instance, in the discussion of the Inaugural Dissertation. In general, however, this is not so. He comes near to showing that Kant's 'development' of ethical theory was one in which nothing new was ever learned and nothing old forgotten. As the discussion advances through the *Critique of Pure Reason*, the teachings there found which look towards the ethics are well developed, but nothing original or characteristic is presented. The last ten pages deal with the critical elucidation of "Fragment 6." This Kantian fragment was first published in 1887, and has been interpreted by Förster and Höffding as implying eudæmonism, even an individualistic eudæmonism. Dr. Schmidt shows quite clearly, I think, that these views are not well founded, that the Kantian emphasis upon rational law is re-asserted. He finds the meaning of the fragment in the fact that it is an attempt on Kant's part to solve the problem of moral obligation without postulating the Ideas of God or immortality, by showing that a pleasurable feeling is bound up *a priori* with action issuing from freedom.

UNIVERSITY OF NEBRASKA.

E. L. HINMAN.

*Die Grenzwissenschaften der Psychologie.* By WILLY HELLPACH. Leipzig, Verlag der Dürr'schen Buchhandlung, 1902.—pp. viii, 515.

Dr. Hellpach is a physician and a former pupil of Wundt. The general aim of his book is to set forth the relations of psychology to the biological sciences. He has meant to include the most important facts of nervous anatomy and physiology, mental pathology, and genetic psychology, together with a critical exposition of their chief theories. More specifically, the volume is an attempt to acquaint medical men with psychology, normal and abnormal, and also to instruct pedagogists in those facts of biology that stand closest to the mental disciplines.

After an introductory chapter on "The Chief Results of Modern Psychology," the *Grenzwissenschaften* are considered in five sections on "The Anatomy of the Nervous System," "Animal Physiology," "Neuro-pathology," "Psycho-pathology," and "The Psychology of Development." Modern psychology is, for the author, synonymous with Wundt's system, and it is to this system that Hellpach refers throughout the book. The five main divisions of the work are made up of short essays that deal mainly with the more commonplace facts and theories of anatomy, physiology, pathology, and mental development. The section on anatomy, *e. g.*, contains chapters on the nerve cell, nervous morphology, brain and mind, and the history of the nervous system. Many of the essays are quite detached, or else they are united only by the author's evident purpose to affect a *rapprochement* between psychology and her quarrelsome neighbors. Perspective and systematic arrangement are especially wanting in the sections on "Animal Physiology" ("The Physiology and Psychophysics of the Sensory Apparatus" would have been a less ambiguous title) and "Neuro-pathology." The best part of the book is the part devoted to mental diseases. The influence of Wundt, everywhere apparent, betrays itself here, indirectly, in the author's indebtedness to Kraepelin, whose method he follows somewhat closely.

Dr. Hellpach's book suffers both from a failure to appreciate foreign systems and points of view, and from an imperfect synthesis of subject-matter. The book lacks breadth and unity. A final chapter which should have picked up and interpreted the author's results would have added much to the value of the work.

Since the book under discussion is intended for the use of persons who are not professional psychologists, it is important to note that the exposition of specific problems is concise and straightforward. Although the volume is written rather in the shadow than in the light of a great system, it nevertheless reflects credit both upon the system and upon psychology at large.

I. M. BENTLEY.

The following books also have been received :

*Descartes, Spinoza, and the New Philosophy.* By JAMES IVERACH. New York, Imported by Charles Scribner's Sons, 1904. — pp. xii, 245. \$1.25.

- The Evolution of Modern Liberty.* By GEORGE L. SCHERGER. New York, London, and Bombay, Longmans, Green, & Co., 1904. — pp. xiv, 284. \$1.10.
- Columbia University Contributions to Philosophy, Psychology, and Education, Vol. XII, Nos. 1-4.* The Professional Training of Secondary Teachers in the United States. By G. W. A. LUCKEY. New York, The Macmillan Co., January, 1903. — pp. 391. \$2.00.
- The University of Missouri Studies, Vol. II, No. 3.* The Process of Inductive Inference. By FRANK THILLY. Columbia, Mo., The University of Missouri, April, 1904. — pp. 40. \$0.35.
- Cornell Studies in Philosophy, No. 5.* Maine de Biran's Philosophy of Will. By NATHAN E. TRUMAN. New York, The Macmillan Co., 1904. — pp. v, 93.
- The Idea of God.* By JAMES PALMER. New York, New York University, 1904. — pp. viii, 70.
- Where Did Life Begin?* By G. H. SCRIBNER. New York, Charles Scribner's Sons, 1903. — pp. xiii, 75.
- The Psychological Index, No. 10.* Compiled by H. C. WARREN and others. New York, The Macmillan Co., April, 1904. — pp. viii, 142.
- Grundzüge der allgemeinen Ästhetik.* By STEPHAN WITASEK. Leipzig, J. A. Barth, 1904. — pp. vii, 410. M. 4; Geb. M. 5.
- Ausgewählte Werke.* Bd. iv, Schopenhauer. Von P. J. MÖBIUS. Leipzig, J. A. BARTH, 1904. — pp. xii, 282. M. 3; Geb. M. 4.50.
- Die Logenarbeit und das 'Reich Gottes.'* Von DIEDRICH BISCHOFF. Leipzig, Max Hesse, 1904. — pp. v, 116. M. 1.50.
- Das idealistische Argument in der Kritik des Materialismus.* Von M. WARTENBERG. Leipzig, J. A. Barth, 1904. — pp. 72. M. 1.60.
- Kants Bedeutung für die Gegenwart.* Von W. JERUSALEM. Wien und Leipzig, W. Braumüller, 1904. — pp. 51.
- Immanuel Kant und seine Weltanschauung.* Von WILHELM WINDELBAND. Heidelberg, C. Winter, 1904. — pp. 32.
- Das Problem der Willensfreiheit.* Von KARL FAHRION. Heidelberg, C. Winter, 1904. — pp. 63.
- La beauté rationnelle.* Par PAUL SOURIAU. Paris, F. Alcan, 1904. — pp. 510. 10 fr.
- Essai sur l'esprit musical.* Par LIONEL DAURIAC. Paris, F. Alcan, 1904. — pp. v, 304. 5 fr.
- La philosophie en Amérique.* Par L. VAN BECELAERE. New York, The Eclectic Publishing Co., 1904. — pp. xviii, 180. \$1.50.
- L'individualisme anarchiste: Max Stirner.* Par VICTOR BASCH. Paris F. Alcan, 1904. — pp. vi, 294. 6 fr.

## NOTES.

### SOME ASPECTS OF THE RECENT NIETZSCHE LITERATURE.

At the beginning of the year 1900, although there was a great mass of Nietzsche literature in existence, most of it was written by men whose training and interests were other than philosophical. Some of them were essayists, others poets or dramatists, and a still larger number were professional journalists. There was a plentiful sprinkling of writers upon social questions and a few practical reformers, there were Lutheran clergymen and followers of Ibsen, physicians for whom Nietzsche was merely a problem in psychiatry, and young men and maidens who accepted him upon his own valuation and regarded his lightest word or deed as charged with sacred meaning. Naturally the members of this motley company cared little for Nietzsche's philosophy in the stricter sense of the term. His sworn followers, to be sure, endeavored to consider the whole of his doctrine, but they were interested particularly in its practical application, and moreover the lack of philosophical training displayed by most of them rendered their treatment of theoretical questions of little or no value to the student. Unacquainted with what had already been done in the field of philosophy, they hailed as new everything that was not in accord with prevailing tendencies, and accepted without blinking arguments that had long been recognized as fallacious. Those whose interests were less comprehensive, and who favored or opposed Nietzsche because of his views on some one or two subjects, selected these as a matter of course from their context and confined their disquisitions to the particular opinions by which they had been attracted or repelled. The result was a long series of monographs upon Nietzsche's relation to Christianity, to current morality, to the emancipation of women, to Wagner's music, to the social and political position of the Jews, and so on almost without limit. In this mass of heterogeneous material, much is too crude to be of value, but such a charge is by no means to be brought against the whole. Portions are well worth reading, and this is especially true of certain articles that appeared in French and German periodicals. From the best of them, however, not much could be expected that would serve as a contribution to the serious study of Nietzsche's philosophy in the technical sense.

In fact, at the beginning of 1900, with the exception of several short accounts in magazines and collections of essays, good enough in themselves, but from the very object for which they were written necessarily incomplete and one-sided, only two expositions had been published that deserve to be called philosophical. They are *Friedrich Nietzsche: Der Künstler und der Denker* by Alois Riehl, and *La Philosophie de Nietzsche* by Henri Lichtenberger. Perhaps nothing better than these has been done

since, but four years ago they stood alone. Nietzsche was not only ignored by the philosophical world, but it was considered necessary to make formal proclamation of the neglect to which he was subjected. Even in Germany propositions to place his books in university libraries met with opposition on the part of the professors of philosophy, and Nietzsche was almost universally held up to shame as a popular charlatan.

At present the public interest in Nietzsche and his books is at once more serious and less enthusiastic. At least this statement is true with regard to the continent of Europe, and in Great Britain and America public interest in Nietzsche can hardly be said to exist. Nietzsche's works are now found in many university libraries, and in at least one university, namely, Leipzig, a course of lectures was recently given upon his philosophy. Monographs containing the results of serious study of his views are now numerous, and bear the names of well-known men such as Vaihinger and Fouillée. Side by side with the more general accounts, there have appeared careful studies of particular aspects of Nietzsche's philosophy, among which his epistemology has received rather more than its due share of attention. Much work has been done in tracing the development of his theories and the influences that helped to shape them, and in showing the close relationship existing between different portions of his philosophy. At present, the student who wishes a knowledge of Nietzsche's works without going to the original sources has the choice of a dozen different expositions, where he can find impartial statement together with keen and often sympathetic criticism. Nietzsche has not been accepted as a really great philosopher, but he has been recognized as historically important, and as worthy at least of serious study. When his doctrines are rejected, grave arguments are advanced for such a course; his views are no longer set aside with a sneer as if they deserved no other confutation.

If one asks what influence the increased study of Nietzsche has had upon the interpretation of his doctrines, one finds the change confined largely to the standpoint from which they are regarded, which has of itself brought about completer and less superficial criticism. Moreover, the data have been somewhat enlarged. Not only two volumes of Nietzsche's letters, but also additional material from his notebooks have been published. Of the twelve volumes of the Naumann edition of 1895, four were posthumous. These have recently been withdrawn from circulation, as a result of the conviction that they misrepresented Nietzsche, their contents have been rearranged, and they have now been republished together with two additional volumes. The second corrected edition certainly gives more emphasis to the Darwinian aspect of Nietzsche's philosophy than does either the first edition or the books published during Nietzsche's lifetime. The influence of the theory of evolution upon Nietzsche has been widely recognized, and his philosophy has even been described as an attempt to carry Darwinism to its logical conclusion. Whether this extreme view is correct or not, one must admit that it has more to justify it now than formerly when the contents of Nietzsche's notebooks were less fully known.

The radical nature of the change described in the attitude of the philosophical world toward Nietzsche is the more marked because of the continued activity of the writers of less technical commentaries. Everyone must of course admit that there is no reason why the valuable books on Nietzsche should be confined to those written by the professional students of philosophy; but, as a matter of fact, the majority of the others are so extravagant in their advocacy or so bitter in their opposition, that they are found helpful only by people who share the same standpoint. At present, those who praise Nietzsche are making the more noise in print and out of it, and the Nietzsche-cult continues to spread. Among the unquestioning believers are still found a great many of the army of philosophical amateurs, men who, without much training in their chosen field, nevertheless interest themselves in philosophical questions and resent any suggestion that here as elsewhere some special knowledge is desirable in a judge. Like their brothers in the field of art, these philosophical philistines maintain that they know what they like, and that, if anyone else has a different taste, so much the worse for him. One of Nietzsche's soberer critics goes so far as to say that the readiness with which a man accepts Nietzsche's theories is in inverse proportion to his knowledge of philosophy, and certainly even so sweeping a statement as this is partially justified by the manner in which some of Nietzsche's admirers combine without a murmur the views of two different periods which he himself recognized as contradictory, discarding one as he became convinced of the truth of its opposite. The most respectable of these enthusiasts are the artists, especially the *littérateurs*, who find in Nietzsche the theoretical expression of a standpoint more common than is usually admitted, and who are doubtless attracted to him also by the beauties of his style.

By one of those exquisite ironies of fate that go so far towards making life worth living, some of the most ardent of Nietzsche's followers are 'emancipated' women. Nietzsche, who regarded woman's function as limited entirely to the bearing of children, and who praised the Eastern view of the sex as immeasurably superior to that of Europe, Nietzsche, the bitter opponent of all that led to *Frauenemancipation*, has been taken up by the advance guard of the movement. In breaking through all the restraints imposed upon women by the customs of European society, their object, forsooth, is the production of the *Übermensch*. Jesters could do no more.

Among the company of Nietzsche's admirers, a few feel themselves called upon to undertake an active propaganda. According to them, only the prevailing ignorance and prejudice prevent Nietzsche's doctrines from receiving wide acceptance, and it is the duty of everyone interested in the cause of truth to help to bring about its triumph. This is being done partly by the publication of monographs, but especially through the establishment of periodicals devoted to the spread of Nietzsche's views. The latest of these is entitled *Notes for Good Europeans*, and is published near Edinburgh.



Besides these literary labors, it is claimed that there has been a more or less organized attempt to make a practical application of Nietzsche's theories concerning the structure and function of society. Not only are various classes of reformers waiting for the necessary power in order to carry out certain of Nietzsche's suggestions, but these latter are, according to some, already being realized. I have not myself seen the articles in question, but I have been told that the recent German activity in the East has been attributed to the direct influence of Nietzsche.

On the whole, then, the present attitude toward Nietzsche is much more encouraging than it was five years ago. He is not, as he believed himself to be, a philosopher of the first rank, but nevertheless he is important enough to merit serious study, and this he is now receiving. The vagaries of the Nietzsche-cult aside, the present estimate of his writings avoids both extravagant praise and blame, and accords them a real though possibly not a permanent value.

GRACE NEAL DOLSON.

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Professor John Dewey of the University of Chicago has been called to a newly established chair of philosophy at Columbia University.

Professor James H. Tufts has been appointed to the headship of the department of philosophy in the University of Chicago, and Professor James R. Angell to the headship of a newly founded department of psychology in the same university.

Professor George Trumbull Ladd has resigned his chair and his position as head of the department of philosophy in Yale University which he has held since 1881.

We give below a list of articles, etc., in the current philosophical journals :

MIND, No. 50 ; *W. L. Davidson*, Professor Bain's Philosophy ; *J. E. McTaggart*, Hegel's Treatment of the Categories of Quantity ; *B. Russell*, Meinong's Theory of Complexes and Assumptions (1) ; *G. E. Underhill*, The Use and Abuses of Final Causes ; *I. M. Bentley*, The Psychological Meaning of Clearness ; Critical Notices ; New Books ; Philosophical Periodicals ; Notes and Correspondence.

THE PSYCHOLOGICAL REVIEW, XI, 3 : *H. J. Pearce*, The Law of Attraction in Relation to some Visual and Tactual Illusions ; *W. R. Wright*, The Relation between the Vaso-Motor Waves and Reaction Times ; *G. T. Stevens*, On the Horopter ; *C. L. Herrick*, The Logical and Psychological Distinction between the True and the Real ; *G. A. Tawney*, The Period of Conversion ; *J. M. Baldwin*, The Genetic Progression of Psychic Objects ; Notes.

INTERNATIONAL JOURNAL OF ETHICS, XIV, 3; *Felix Adler*, The Problem of Teleology; *J. G. James*, The Ethics of Passive Resistance; *W. E. B. DuBois*, The Development of a People; *C. S. Myers*, Is Vivisection Justifiable? *J. H. Leuba*, Professor William James's Interpretation of Religious Experience; *J. H. Muirhead*, Wordsworth's Ideal of Early Education; *J. C. Murray*, What Should be the Attitude of Teachers of Philosophy towards Religion? A Reply; *J. Kindon*, Byron *versus* Spenser; Book Reviews.

THE MONIST, XIV, 3: *Otto Pfeleiderer*, The Christ of Primitive Christian Faith; *George Gore*, The Coming Scientific Morality; *Hans Kleinpeter*, The Principle of the Conservation of Energy; *H. R. Evans*, Madame Blavatsky; *J. H. Noble*, Psychology on the 'New Thought' Movement; *N. Vaschide* and *G. Binet-Valmer*, The Elite of Democracy; Criticisms and Discussions; Book Reviews.

THE HIBBERT JOURNAL, II, 3: *Henry Jones*, The Moral Aspect of the Fiscal Question; *Sir Oliver Lodge*, Suggestions towards the Reinterpretation of Christian Doctrine; *H. Henson*, The Resurrection of Jesus Christ; *W. B. Carpenter*, Gladstone as a Moral and Religious Personality; *Andrew Lang*, Mr. Myers's Theory of 'The Subliminal Self'; *C. J. Keyser*, The Axiom of Infinity; *W. J. Brown*, The Passing of Conviction; *Hugo Winckler*, North Arabia and the Bible; Discussions; Reviews.

THE PSYCHOLOGICAL BULLETIN, I, 5: *R. M. Yerkes*, Variability of Reaction-time; *Irving King*, Recent Works on Child Psychology and Education; Psychological Literature; New Books; Notes; Journals.

I, 6: *R. M. Ogden*, Memory and the Economy of Learning; *M. W. Calkins*, Voluntaristic Psychology; Recent Experimental Literature; Discussion and Correspondence; New Books; Notes; Journals.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, I, 6: *A. D. Sorensen*, A Criticism of Scientific Method as Applied by Sociologists; *J. A. Leighton*, Pragmatism; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 7: *R. B. Perry*, Recent Philosophical Procedure with Reference to Science; *John Dewey*, Notes upon Logical Topics, II; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 8: *J. H. Tufts*, The Social Standpoint; *Wm. Turner*, Recent Literature on Scholastic Philosophy; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 9: *W. B. Pillsbury*, A Suggestion toward a Reinterpretation of Introspection; *R. MacDougall*, Recognition and Recall; *W. H. Sheldon*, Definitions of Intensity; Societies; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 10 : *C. A. Strong*, A Naturalistic Theory of the Reference of Thought to Reality ; *W. H. Sheldon*, A Study of Intensive Facts ; Discussion ; Societies ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, X, 3 : *Hobbes-Analekten* ; *Paul Ziertmann*, Ein bisher fälschlich Locke zugeschriebener Aufsatz Shaftesburys ; *Alessandro Chiappelli*, Über die Spuren einer doppelten Redaktion des platonischen Theaetetus ; *Paul Tannery*, Sur une erreur mathématique de Descartes ; *A. Döring*, Die beiden Bacon ; *Georg Jaeger*, Locke, eine kritische Untersuchung der Ideen des Liberalismus und des Ursprungs nationalökonomischer Anschauungsformen ; *A. Hoffmann*, Die Lehre von der Bildung des Universums bei Descartes in ihrer geschichtlichen Bedeutung ; Jahresbericht.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, X, 1 : *Erich Adickes*, Auf wem ruht Kants Geist ? *Max Dessoir*, Anschauung und Beschreibung ; *J. N. Szuman*, Der Stoff vom philosophischen Standpunkte ; Jahresbericht.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOZIOLOGIE, XXVIII, 1 : *Demetrius Gusti*, Egoismus und Altruismus, I ; *Cay von Brockdorff*, Schopenhauer und die wissenschaftliche Philosophie, I ; *W. G. Alexejeff*, Über die Entwicklung des Begriffes der höheren arithmologischen Gesetzmässigkeit in Natur- und Geisteswissenschaften ; Besprechungen ; Selbstanzeigen ; Philosophische Zeitschriften ; Bibliographie.

KANTSTUDIEN, IX, 1 und 2 : *O. Liebmann*, Kant : Zur Erinnerung an den 12. Februar, 1804 ; *W. Windelband*, Nach hundert Jahren ; *E. Troeltsch*, Das Historische in Kants Religionsphilosophie ; *F. Heman*, Immanuel Kants philosophisches Vermächtnis ; *B. Bauch*, Die Persönlichkeit Kants ; *F. Staudinger*, Kants Bedeutung für die Pädagogik der Gegenwart ; *E. Kühnemann*, Herder und Kant an ihrem hundertjährigen Todestage ; *A. Riehl*, Helmholtz in seinem Verhältnis zu Kant ; *F. Paulsen*, Zum hundertjährigen Todestage Kants ; *G. Runze*, Emerson und Kant ; *F. A. Schmid*, Kant im Spiegel seiner Briefe ; *E. v. Aster*, Die neue Kant-Ausgabe und ihr erster Band ; *H. Vaihinger*, Erklärung der vier Beilagen ; *H. Vaihinger*, An die Freunde der Kantischen Philosophie.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, XXXIV, 5 und 6 : *Leo Hirschclaff*, Bibliographie der psycho-physiologischen Literatur des Jahres 1901 ; Namenverzeichnis der Bibliographie ; Namenregister.

XXXV, 1 : *H. Feilchenfeld*, Über die Sehschärfe im Flimmerlicht ; *F. Kiesow*, Über die einfachen Reaktionszeiten der taktilen Belastungsempfindung ; *Beyer*, Beitrag zur Frage der Parosmie ; Literaturbericht.

REVUE DE MÉTAPHYSIQUE ET DE MORALE, XII, 2 : *Lewis Prat*, Les derniers entretiens de Charles Renouvier ; *F. Colonna d'Istria*, Ce que la

médecine expérimentale doit à la philosophie ; *L. Couturat*, Les principes des mathématiques ; *F. Evellin*, La Raison et les Antinomies, III ; *A. Fouillée*, Le 'devoir-faire' et le 'devoir' ; *P. Lacombe*, L'idée de patrie ; Seconde Congrès International de Philosophie à Genève ; Livres nouveaux ; Revues et périodiques ; Thèses de doctorat.

REVUE NÉO-SCOLASTIQUE, XI, 1 : *D. Mercier*, La liberté d'indifférence et le déterminisme psychologique ; *J. Halleux*, La philosophie d'Herbert Spencer ; *D. Nys*, L'hylémorphisme dans le monde inorganique ; *James Lindsay*, La philosophie de St. Thomas ; *H. Lebrun*, L'Institut Carnegie ; *A. Pelzer*, Chronique philosophique ; Comptes-rendus ; Ouvrages envoyés à la Rédaction ; Table des matières pour l'année 1903.

REVUE PHILOSOPHIQUE, XXIX, 4 : *L. Dauriac*, Le testament philosophique de Renouvier ; *F. Rauh*, Science et conscience ; *G. Cantecor*, La science positive et la morale (2<sup>e</sup> et dernier article) ; *A. Rey*, Les principes philosophiques de la chimie physique ; Analyses et comptes rendus ; Revue des périodiques étrangers ; Correspondence.

XXIX, 5 : *A. Naville*, De la vérité : remarques logiques ; *B. Bourdon*, La perception de la verticalité de la tête et du corps ; *H. Piéron*, La conception générale de l'association des idées et les données de l'expérience ; *Vaschide*, La conscience des agonisants ; *Brunschwigg*, Vers le positivisme absolu par l'idéalisme, de L. Weber ; Analyses et comptes rendus ; Revue des périodiques étrangers ; Livres nouveaux ; Nécrologie.

JOURNAL DE PSYCHOLOGIE NORMALE ET PATHOLOGIQUE, I, 3 ; *J.-J. Van Biervliet*, La mesure de l'intelligence ; *G. Durante*, Considérations générales sur la structure et le fonctionnement du système nerveux (Fin.) ; *A. Mayer*, Influence des images sur les sécrétions ; *J. Grasset*, La peur, élément-psychique normal de défense ; Bibliographie.

RIVISTA FILOSOFICA, VII, 1 : *A. Faggi*, H. Spencer e il suo sistema filosofico ; *C. Cantoni*, Un capitolo d'introduzione alla 'Critica della Ragion pura' di E. Kant ; *E. Juvalta*, La dottrina della due Etiche di H. Spencer, I ; *G. Vidari*, Di alcune recenti pubblicazioni di filosofia morale ; Rassegna Bibliografica ; Notizie e Pubblicazioni ; Nel primo centenario della morte di E. Kant ; Necrologio ; Sommari delle riviste straniere ; Libri ricevuti.

RIVISTA DI FILOSOFIA E SCIENZE AFFINI, I, 3-4 : *G. Tarozzi*, Libertà ; *G. de Angelis*, Brano di logica formale della geologia ; *C. Ranzoli*, La fortuna di Erberto Spencer in Italia ; *G. del Vecchio*, Diritto e personalità umana nella storia del pensiero ; *F. Moffa*, L'etica di Democrito ; *G. Trespioli*, Il pensiero giuridico e sociale d'Italia nell'evo moderno ; Rassegna di filosofia scientifica ; Rassegna di pedagogia ; Analisi e cenni ; Notizie ; Sommari di riviste.

THE  
PHILOSOPHICAL REVIEW

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THE INFINITE NEW AND OLD.

TO the technical student of philosophy, one of the most interesting and important parts of Professor Royce's recent book, *The World and the Individual*, is the discussion of the infinite in the essay supplementary to the first volume.<sup>1</sup> This is a very suggestive piece of work, and whatever one may think of the net result for metaphysics, one must admire the ingenuity with which Professor Royce applies the notion of a self-representative system to the philosophical concept of the infinite. For my own part, while I am indebted to this essay for directing my attention to the very interesting researches of Dedekind, Cantor, Bolzano, etc., I am not convinced that we have thereby been much advanced towards the proof of the existence of an actually infinite and absolute mind, or that much light has been shed on the interior constitution of such a mind. I propose first to state some of my difficulties in regard to this "new" infinite as a preliminary to some remarks on the meaning of the notion of the infinite in general.

*Self-representation* is the fundamental characteristic of the new infinite, and numberless illustrations can, of course, be offered of self-representative series. For example, the map of a country, to be perfect, must contain a representation of the spot on which it itself exists, and, hence, a representation of its own representation of the country, again a representation of this self-representation, etc., . . . without end. A picture-package of cereal, to be perfect, must have a picture of the picture on the package, etc., . . . without end. More abstract illustrations are drawn from mathematics.

<sup>1</sup> See also Professor Royce's article in the *Hibbert Journal*, Vol. I, No. 1.

In general, every case of a "one-one" or "point-to-point" correspondence between whole and part gives such a series. The relation here is said to be one of *similarity*. For example, the points on a given line are *similar*, *i. e.*, stand in a "one-one" relation to the lines drawn through a given point and meeting the given line.<sup>1</sup> We are told that the *infinite is that which is similar or equivalent to a proper part of itself*. But this equivalence simply consists in a "one-one" *correspondence* of elements. Such a correspondence is well illustrated by simple numerical series. The series of natural numbers and the series of even numbers,  $1 + 2 + 3 + 4$ , etc., and  $2 + 4 + 6 + 8$ , etc., are both infinite. In the second series there is a term corresponding to every term in the first series, and hence the relationship between the two series is that of similarity or equivalence, although the second series is part of the first, since the number 1 is not contained in the former. Hence we have here a perfect similarity of whole and part. This relationship can be carried out so as to produce an infinite number of correspondent infinite series, respectively *containing* and *contained*, by writing down in order the second, fourth, sixth, eighth, etc., numbers of the preceding series. In other words, *the law of production* of an infinite number of series each infinite in itself, which exist in a relation of "one-one" correspondence or equivalence, is here perfectly well-defined. *The infinite is a clearly defined concept in the sphere of numbers.*<sup>2</sup>

Dedekind defines the concept of the infinite number-system in this way. "A system  $S$  is said to be infinite when it is similar to a proper part of itself."<sup>3</sup> The proof that there exist actually infinite systems is drawn from the mind's power of self-representation. "My own realm of thoughts, *i. e.*, the totality  $S$  of all things, which can be objects of my thought, is infinite. For if  $s$  signifies an element of  $S$ , then is the thought  $s'$ , that  $s$  can be the object of my thought, itself an element of  $S$ . If we regard this as transform  $\varphi(s)$  of the element  $s$  then has the transformation  $\varphi$  of  $S$ , thus determined, the property that the transform  $S'$  is

<sup>1</sup> Russell, B., *The Principles of Mathematics*, Vol. I, pp. 305 f.

<sup>2</sup> For further illustrations and discussions see the works of Royce and Russell previously cited.

<sup>3</sup> Dedekind, *Essays on Number*, p. 63 (English translation).

part of  $S$ ; and  $S'$  is certainly proper part of  $S$ , because there are elements of  $S$  (*e. g.*, my own Ego) which are different from such thought  $s'$  and therefore are not contained in  $S'$ . Finally it is clear that if  $a, b$  are different elements of  $S$ , their transforms  $a', b'$  are also different, that therefore the transformation  $\varphi$  is a distinct (similar) transformation."<sup>1</sup> "A transformation  $\varphi$  of a system  $S$  is said to be *similar* [ähnlich] or distinct, when to different elements  $a, b$  of the system  $S$  there always correspond different transforms  $a' = \varphi(a), b' = \varphi(b)$ ";<sup>2</sup> in other words, when there is a one-one relation between the parts of the original system and the parts of the system produced by transformation, as in the illustrations given above from the series of simple numbers.

Now the above *so-called proof* of the actual existence of infinite systems is simply a *symbolical way of stating the unlimited self-reflective or self-mirroring capacity of human thought*. Instead of proving the existence of an infinite, Dedekind presupposes that power of transcending any given limit to which philosophers have often called attention as constituting the characteristic infinitude of human self-consciousness. *I do not know the totality  $S$  of all things which can be objects of my thought as an actual totality. I do know that I can reflect on or think the thought of any object of my thought, and I presuppose that there is no limit to my thought and hence none to its objects, whether these be primary thoughts or thoughts of thoughts, etc. The so-called actual or existential infinitude of any thought-system presupposes, as I shall maintain, the eternity of the thinking mind.* All these arguments, with their illustrations from number-series and systems, from ideally perfect maps, etc., show nothing more than the *potential infinitude* of the mind as this is revealed in thought's power of continuous reflection on its own contents. The question still remains open as to the relation of this infinitude of continuously recurrent operations of self-conscious thinking to existence as a whole and to an actually infinite and absolute mind.

Further, it is to be said in criticism of Dedekind's proof, that it is difficult to see what parts of system  $S$ , the totality of things

<sup>1</sup> Dedekind, *op. cit.*, p. 64.

<sup>2</sup> *Ibid.*, p. 53.

which can be objects of my thought, can be outside  $\varphi(S)$  or  $S'$ , *i. e.*, outside the transformation of  $S$  wrought by the reflection that  $S$  can be the object of my thought. Dedekind says that the thought of my own Ego is not subject to such transformation. But so soon as I attempt to think distinctly my own Ego in this relation, it becomes a part of the totality of my thoughts on which I can reflect, *i. e.*, I can and must think my capacity to think reflectively of my thought as itself an object of reflection. As soon as my Ego is distinctly and specifically thought about, it becomes subject to transformation like any other thought. Until it is so thought about, it is only an implicit presupposition of thinking. This presupposition may be legitimate, but it is not made more so by Dedekind's argumentation. He simply assumes that the Ego's unlimited power of self-reflection or self-transcendence is actually realized at every moment, whereas we must presuppose as its condition the existential infinitude of the thinker. I shall endeavor to show that this existential infinitude is something quite different from potential thought-systems, and that it is the fundamental condition of the latter's validity. The self, as an *object* of thought, is but one thought-content amongst others. The self as unreflected, or, in Dedekind's terms, *untransformed* subject is, so far as it is matter of direct experience, a vague feeling of strain of attention, emotional tendency, etc. The conversion of this feeling-self into that which may be called an *object of thought* is its transformation into an empirical content of consciousness subject to the same conditions as all other contents of consciousness, and therefore not to be exempted from Dedekind's process of transformation. The Ego-thought then is the *presupposition*, not the proof, of the *existence* of thought-systems in which the part is similar to the whole.

Georg Cantor, in his discussions of the subject, makes an important distinction between the *transfinite* and the *absolutely infinite*. The notion of the transfinite is based on that of the smallest definitely fixed number which is greater than all finite numbers. This notion seems to be equivalent to the ordinary definition of the infinite for the purposes of the calculus as that which is greater than any assignable quantity. The transfinite is



a *limit* which finite numbers indefinitely approach. The number of finite members is transfinite. Call this number  $a_0$ , then there is no last finite number before  $a_0$ . The transfinite Cantor also calls the *created infinite*.<sup>1</sup> It is capable of being augmented (vermehrbar), while the *absolutely infinite* (*infinitum æternum increatum*) cannot be augmented. The adoption of Cantor's distinction might save a good deal of confusion in the discussion of this subject. Cantor says that the transfinite is the *potentially infinite*, but that if it is to be capable of strict mathematical treatment, it presupposes an *actual infinite*.<sup>2</sup> He gives, however, so far as I know, no positive determination of the actual infinite, and his discussion does not carry us beyond the point that the assumption of an actual infinite of some sort may be implied or presupposed in those serial operations of thought in number-systems and other self-representative systems. But these serial operations themselves all fall under the category of Cantor's transfinite. We have in all these cases only well-defined laws of unending thought-operations. We are still in the dark as to the nature of the actual infinite and its existential relation to our minds.

Couturat's defence of the infinite in his *L'infini mathématique*, cited by Professor Royce, seems to me simply to vindicate the infinite, in the sense above defined, as a logical and necessary function of thought presupposed in mathematical reasoning. The logical character of the new concept of the infinite perhaps comes out most clearly in Mr. Bertrand Russell's very able work, *The Principles of Mathematics*. Here the notion of the infinite seems to be removed entirely from the realm of quantity into that of quality. The infinite is defined by him purely in terms of intensional class-relations, and wholly without reference to extension or enumeration. "The definition of whole and part without any reference to enumeration is the key to the whole mystery."<sup>3</sup> The infinite is that which cannot be reached by mathematical induction starting from 1, and "it is that which has parts which have the same number of terms as itself." Now this qualitative definition of the infinite without regard to enumera-

<sup>1</sup> *Zeitschrift für Philosophie*, Band 91, pp. 105-111 ff.

<sup>2</sup> *Ibid.*, p. 117.

<sup>3</sup> Russell, *Principles of Mathematics*, Vol. I, p. 361.

tion is certainly not the notion present to the lay mind, nor even that employed in ordinary mathematics, and in its practical applications to space and time. In the light of this new conception, Mr. Russell, as I understand his arguments, claims to remove the difficulties in regard to the infinitude of space and time, *i. e.*, the so-called antinomies of Kant. This is not the place to examine Mr. Russell's doctrine of space and time. But the space and time with which he deals can hardly be the space and time of our human experience, since we certainly mean by the infinite, as applied to the latter, a quantitative infinite involving extension and number. How we can know without reference to enumeration the actual existence of an infinite in which the parts have the same *number* of elements as the whole, I do not quite understand, and if the true infinite must be conceived entirely without reference to enumeration, the relation of whole and part must be entirely stripped of the spatial metaphor which so persistently clings to our thinking, and must be conceived purely in terms of intension or quality. How this elimination of number and space, with the retention of the relation of whole and part as analogous to and expressive of the ultimate relation of man and the absolute, can be achieved I do not see. And therefore I am not able to accept the new concept of the infinite as a metaphysical illumination.<sup>1</sup>

What we have in the new concept of the infinite is the definition of an essential quality of thought, viz., the capacity of transcending any finite limit or number. In the definition, "any class or assemblage which is infinite is similar to a proper part of itself," we have a symbolic and formal expression for that *logical* relation of the mind to the system of its own thoughts which seems to be implied necessarily by the mind's own power of

<sup>1</sup> Mr. Russell, of course, makes no such metaphysical use of the theory, and he is enabled to assert the demonstrable reality of infinite systems by an epistemology peculiar to himself and to Mr. G. E. Moore. He says that "throughout logic and mathematics the existence of the human or any other mind is totally irrelevant," and "the subject-matter of logic does not presuppose mental processes, and would be equally true if there were no mental processes" (*Hibbert Journal*, Vol. II, No. 4, p. 812). I confess that so far as these statements have any meaning to me, they seem tantamount to asserting that truth and logic are material entities, unthought and unthinking. If Mr. Russell is right every argument of idealism is wrong.

self-transcendence. If the mind be eternal, it forever transcends its own particular thought-contents. These, as a potential system, reflect the mind's thinking activity and yet never at any moment adequately mirror that activity. Is it not plain that actual infinity depends on the relation of thought to time?

So far we have not gained more than the very interesting and significant insight that our minds have the power by reflective thinking to transcend their existing thought-contents, and to formulate laws for the production of endless series of relations between numbers or other contents of thinking. So far, indeed, our minds do seem to transcend their own existential states and *imply* their own infinitude. This inherent tendency of the mind has been well named by Poincaré the *axiom of infinity*.

But while this new mathematical conception affords an interesting and important illustration of thought's power to transcend the actual, or, as I have otherwise stated it, the mind's self-transcendence of its existential states, we have neither a new *proof* of an actual infinite nor a new insight into the constitution of an infinite and absolute mind. The whole question of the relation of our mathematical reasoning to ultimate reality remains open. The "new" concept of the infinite simply gives symbolic expression to an important characteristic of human thinking. And it is in other quarters that the problems of the real existence and constitution of an infinite and absolute mind, and the relation of such a mind to our apparently finite and conditioned existence, become most insistent and have most vital import. Nor can appeal be made at this point to Professor Royce's general argument from the internal to the external meaning of ideas. For it is precisely the objective or existential significance of these purely abstract thought-processes that is in question. We have a law or concept which prescribes the rule for an unending operation of thought, but by the nature of the case this operation is never actualized as human experience. We may not affirm offhand the identity of thought and being. We may legitimately assume that our power to conceive a universe of thought-processes as infinite in an infinite number of ways must stand in some positive relation to absolute reality — that it must be some-

how included in the latter. But precisely what this relation may be is an entirely different question. In order to make any advance towards answering the question, we must have recourse to other considerations, at once more fundamental and far-reaching, than iterative processes of thought. In metaphysics the "new" infinite does not advance us any further than the old infinite. That a whole which is similar to a proper part of itself is infinite does not tell us there is actually such a whole outside the mathematician's thinking. The "new" infinite brings no new insight in regard to the nature of reality or man's place in reality.

But let us admit for the moment that a self-representative series is the true type of the actual infinite. Now an absolute mind, perfect and self-sufficient in knowledge, in power, etc., must transcend time and change. The experience of the absolute must be indivisible and timeless — a *totum simul*. What insight does the new concept of the infinite give us into the nature of an indivisible experience in which is neither variable-ness nor shadow of turning? This new concept furnishes us with a determinate law or rule according to which we may carry out without limit an iterative process of thinking, but it is now and forever a *process*. Professor Royce and others lay stress on the *well-defined character* or *determinateness* of the new infinite series, in contrast with the indeterminateness and negativity of the old concept of the infinite as a "boundless contiguity of shade," a sort of penumbral envelope of the finite in space and time. And it is quite true that in the notions of infinite series, etc., we are given definite prescriptions for unending thought-sequences. Nevertheless, in order that the sequences may be conceived as actually realized, we must presuppose a mind eternally thinking according to the prescription. And the separate recurrent acts of thought, being events in a mind, seem to involve time. *The actuality of these infinite series presupposes an existent eternal mind.* All we are entitled to say in the premises is that if a mind persist throughout what we call *time*, it can go on thinking these determinate series *ad libitum*. But the vital conditions of such a timeless or time-transcending existence may

be quite irrelevant to self-representative series in mathematics or picture packages of cereal.

Furthermore, by this road we never seem to get any nearer that *single indivisible timeless experience* or *totum simul* which our absolute mind must have. The type of all self-representative series or chains (Kette) is the self's own representation of its thoughts. I may go on indefinitely thinking my experience, thinking the thought of my experience, etc., etc., but my own Ego eludes my reflection and my thought never attains complete self-representation in a single act of insight. Therefore, it is argued, my thought is infinite. But in truth the infinitude here is incompleteness forever seeking completion. Never at a single blow do I penetrate entirely my experience and see in one pellucid interval the thinker and the thought. So far is the new infinite from furnishing in this regard a *positive* conception, in contrast to the old negative conception, that it is rather drawn from a *limitation* of human self-consciousness. If advanced as the archetype and pattern of an absolute experience, it appears to be open to Hegel's objection against *leere Wiederholung*. And the difficulty is not met by pointing to the fact of apparently timeless experiences of series. For example, while we do doubtless experience in some sense in a single instant the succession involved in a musical phrase, we do not experience the music at once in the same sense in which we experience it in actual succession. I do not deny that we have apparently timeless experiences, nor that truth has a timeless aspect. But I do not see that the infinite series and systems of the 'new' infinite are actually given or present as totalities in timeless instants. The only timeless element is the law or principle of formation. The realization of the series involves an actual succession or time sequence in thought, and all that is required to account for the apparent simultaneity in the experience of elements in a series is *continuity* of movement, a "smooth passage of ideas." The apparent simultaneity or instantaneousness in the experience of series, then, does not entitle one to assert off-hand that here we have eternity and an absolute mind, or that we have been let wholly into the secret of a *totum simul* experience.

In the metaphysical application of the new concept of the in-

finite, great stress is laid on the peculiar relation of whole and part afforded by it. This relation is regarded as furnishing a key to the relation of the apparently finite human self to the Absolute. The whole is similar to the part, the part is equivalent to the whole, since to every element in the whole corresponds an element in the part. Professor Royce says the part *equals* the whole. But this is not equality in the ordinary quantitative sense. It is only a logical relation of one-one correspondence. The relationship may be called one of similarity, equivalence, one-one correspondence, etc., but it is certainly not equality in its ordinary meaning.<sup>1</sup> This extraordinary sort of equality has no intelligible bearing on the relation between my will and an infinite will, between my struggling temporal life and this eternal and unvarying life, between my experience conditioned by change and error and an eternally complete and indivisible experience.

In short, these iterative processes of human thinking, defined by the new infinite, significant and suggestive of a timeless thinker though they be, neither prove the reality nor clearly illuminate the inward constitution of an absolute mind or self, which must somehow have a *timeless*, if *perfect* and indivisible, experience. Must not such a mind know all things in a radically different way from our minds? Must not even the infinite number of infinite series present themselves differently in an absolute mind, if they present themselves to it at all? And what can be the connection between an infinite mind, which occupies itself ever in thinking numerical and other forms of self-representative relations, and a supreme Self, regarded as sustaining human ideals, as making possible the fulfilment of specific human and practical purposes, and as conserving the complex and uniquely significant lives of human persons. The eternal play of an endless approximative or asymptotic series of attempts at self-representation, or the notion of limitless serial orders, does not seem to be connected in any intelligible fashion with the existence of a multitude of imperfect and developing sentient beings. Such a play of purely abstract thought-relations scarcely affords a satisfactory

<sup>1</sup> Sir Oliver Lodge has pointed out this fallacy in the *Hibbert Journal*, Vol. I, No. 2, pp. 351 ff.

foundation for human endeavor, or, indeed, for the growth of concrete knowledge. No positive relation has been shown to exist between the "new" infinite and the actual conditions of human action or common experience. Do we get from the "new" infinite any light on the place of our temporal activities in the universe? I fear not. If the notion of the infinite is to have any vital meaning at all we must approach it from some other quarter than that of abstract and symbolic logical operations developed in that department of science which is admittedly most remote from actual experience, and in which the very abstractness and aloofness from the conditions and structure of concrete experience make possible these new and beautiful formulas of serial order, etc. We are expressly informed, *e. g.*, by Mr. Russell, that mathematical space can be constructed by an order of points, entirely without reference to the sensuous space-intuition of actual experience.

The notion of a perfect self or absolute mind, if it is to have any real meaning for us humans, must be determined by reference to the more significant aspects of human life. The infinite must be interpreted in terms of the fundamental activities and ideals of the concrete human self, and here at once we are faced by the antithesis between the temporal and the eternal, between the striving and growing and the perfect and complete. What is the relation of the human will to the Absolute as will? What is the relation of human deeds and sentiments and thoughts to the entire system of things? Here we face a central difficulty, and, indeed, I am disposed to think, *the supreme problem* of systematic philosophy. If we could determine the place of our *temporal* experiences and efforts in the ultimate reality, if we could in thought lay hold on the *permanently significant* in these experiences and efforts and see the ultimate goal and meaning of personal growth and of cosmic change, the problem of philosophy would be solved, and the "infinite" would cease to trouble us. But the new concept of the infinite does not advance us a single definitive step further towards the solution of these problems. We ask for bread and we are offered a stone.

After all these negations, I venture with hesitation to offer

some positive considerations on the meaning of the infinite ; and, in so doing, I would remind the reader that the new concept of the infinite has already been recognized as a clear and beautiful *illustration* of the mind's power of *self-transcendence*. In the first place, we must distinguish carefully between the *potential infinitude* of human thought, which is but another name for the above-mentioned quality of self-transcendence, and *existential or actual infinitude*. The latter quality we may suppose to belong to an absolute being or *ens perfectissimum*.

The human mind we know to be infinite only in promise and potency. We may perhaps assume that this promise and potency has somehow its roots in an actual infinite, that the capacity for transcending its existential conditions, for going beyond the data of experience and transforming the latter under the guidance of *norms* or *ideal values* which the human self displays both in theoretical thinking and in practical endeavor and preëminently in the very discussion of its own final destiny, may entitle us to assume that these ideal values are evidences of the presence un-awares of the actual angel of the infinite and perfect in the mind of man. But such considerations hardly furnish a gnostic insight into the synthesis of finite and infinite.

Positively regarded, the actual or existential infinite is a *limiting notion* like  $\sqrt{2}$ . We indefinitely approximate to it in our thinking and doing, but under present conditions we do not actually comprehend it or attain unto it. We may conceive this existential infinite as the *ideal limit* of thought and volition. It is not present to our minds as boundless in space or endless in time, but rather as the complete and perfect, transcending space and time. The infinite, then, in this sense, is the goal of thinking and of practical endeavor. It is really the limiting notion of the indefinite series of thoughts, aspirations, and deeds in which we strive to approach and realize the ideally perfect or Absolute. This series seems to us now, as we look before and after, to be endless. And just as a life is presented in the successive steps of its development, and a supreme end is unfolded in the successive steps towards its fulfilment, we may presuppose the actual infinite to be inherently involved in our approximations towards



it. But when we think of the goal or end as a reality *now*, the actual infinite becomes the *limit* of our apparent infinitude of thought, feeling, and action. And our apparent infinitude is the possibility of *indefinite* continuance in thought, deed, etc.

In knowing a limit we transcend it and set it further on. This self-transcendence, whether it be in acquiring knowledge or in the deeds which go to make character, is at once a negation and an affirmation. *We negate that which is* for us now, as attained, in seeking to transcend it. *We affirm that which is not* but is to be. In setting forward the limit or goal, we at once confess the present unreality for us of that which we seek, and we postulate its reality as that unto which we may attain. There is here a dialectic which involves the mutual implication of the finite and the infinite. The existentially finite human spirit is potentially *infinite*. But it cannot be even *potentially* infinite unless its repeated self-transcendence is grounded on a reality which is the common basis of finite and infinite. The infinite as actual now appears *beyond* the finite self. It is at once the goal and the presupposition of the incessant, self-transcending efforts of the human spirit in thought and deed, *i. e.*, in the very concrete pulse and movement of life itself.

If we should come to possess the infinite in very truth, if we should, by the falling away of the veil of time, apprehend as it really is that which we now call the infinite, it would no doubt at once seem both strange and familiar. We should no longer feel our own finitude ; but, on the other hand, the merely infinite would no longer mean anything to us. As the attained goal of hitherto indefinite endeavor, the infinite would be transformed into a more positive and satisfying reality. In truth the goal is not infinite. It is more concrete and individual. It must be a reality which transcends the opposition of finite and infinite engendered by the temporal character of our present activities. *Now* it appears to us as a terminus or limit, just as  $\sqrt{2}$ , although not in itself infinite, is a limit which is approached by an infinite series of numbers. This is the paradox of the infinite, viz., that the fruition of our experiences and the fulfilment of our purposes, in other words, the actual attainment or possession of infinitude,

would mean the complete evanescence of the notion of an infinite. In so far as we attain to, or apprehend, perfection and the completed reality in any fundamental activity of life, for the nonce at least, the contrast between our existential finitude and the hitherto indefinitely distant goal or limit of our striving falls away. We feel the presence of an Absolute, and the infinite is lost in being attained, since our state of being then seems wholly throbbing with the positive and the actual. Hence the very notion of an infinite springs out of a present consciousness of impermanence and imperfection which seeks ever the permanent and perfect.

The notion of the infinite has for life and religion the significance of a *limiting concept*. In this respect, it is akin to the notion of God; and, like the latter, it represents in religious feeling and metaphysical speculation the craving for *completeness*, *i. e.*, timeless perfection. Therefore, the positive content of our notion of the infinite is to be derived from the chief or fundamental directions or tendencies in which feeling and thought seek completeness with reference to life as a totality. The infinite is the limiting notion or point of fulfilment for certain fundamental tendencies of the human spirit in relation to the conditions of its life and activity. I shall endeavor in the space left to indicate very summarily the meaning of the infinite in the chiefest of these relations. We are dealing here simply with *tendencies* of the life-process in the human self.

The infinite, in relation to existence in *time*, is not the endless but the *timeless*, *i. e.*, its being and life are not in any sense episodes in time, are neither increased nor diminished, nor in anyway realized in subjection to temporal conditions; and yet, of course, since the infinite is a limiting concept standing in relation to our finite lives, the temporal life of man and the course of history must have positive significance in relation to the timeless infinite, and be somehow taken up into the thought and vitally connected with the activity of the latter. But this starts a very difficult problem, perhaps insoluble, and I cannot attempt even to deal with it here. In relation to *space*, the true infinite is not the indefinitely boundless but that which is limited to no space and is indeed the ultimate limit of space-conditions of existence. Here

again, of course, conditions of finite existence must have some positive significance for the infinite.

In relation to *knowledge*, an infinite consciousness means, primarily, not the capacity to think in serial order, but to penetrate directly and immediately the obstinate facts of experience which are to us opaque, and into which we gain insight only slowly and by constant effort. An infinite intellect must be *intuitive*, *i. e.*, the contents of its own immediate consciousness and all forms and sorts of existence must be present to its thought luminously, instantaneously, and continuously. To such an intellect, all objects of thought are as clear in every relation as if directly created by itself. But we do not need to assume that it has no objects of thought or experience that are not directly created by itself. We need not assert, in order to admit the reality of an absolute self, that there is in the universe only *one* thinker or doer. Of course, we do not understand from our own experience the inner constitution of such an infinite intuitive intellect. But if, as I have maintained, the infinite is a limiting concept, we must be satisfied to determine negatively its meaning in this relation, *i. e.*, as the limiting condition of thought and knowledge in us.

In relation to *goodness*, an infinite *will* must be devoid of all inherent temptation or struggle. There can be in such a will no gap between purpose and achievement, no interval between will and deed, and no conflict of desires. In other words, a goodness positively infinite transcends the human moral struggle. The infinitely good is the limiting notion of the humanly good. The latter approaches the former as goodness becomes *second nature*, as it passes from self-conscious struggle and choice into moral habitude, and good conduct becomes the spontaneous expression of 'good feeling.'<sup>1</sup> The opposing concepts of duty and inclination, then, have no direct application to the action of an infinitely good will. The infinite or final limit of our consciously sought moral goodness is a state of volition other and higher than itself. This *other* seems to be what the Christian means by *infinite love*. The attainment of an infinite goodness would be its transforma-

<sup>1</sup> Cf. Professor Palmer, "The Three Stages of Goodness" in his *Nature of Goodness*.

tion into a higher and spontaneous state of action in harmony with reality. The infinitely good is that goal of our moral endeavor which sets the limit to our struggles. But here again we know not how many efforts lie between us and the goal. Perfect goodness, being indefinitely removed from our present attainments, we call *infinite*.

In relation to *power*, the infinite must be the wholly *self-active*. Its action can in no way be originated or called forth by any power hostile to or underived from itself. This action can be permanently obstructed by no obstacle which it does not itself set up or allow (the human will, for example, might conceivably obstruct the Divine will, but if the latter were infinite in power, we should have to assume that, from the depths of its ethical nature as love, the Divine will consented to this obstruction as a condition of human moral freedom). No sort of being could be said to possess infinite power unless it were the creative source of all power. But an infinite ethical power might<sup>2</sup> give relatively independent power to created or finite wills. Indeed, unless we admit in the infinite power or will the reality of *self-limitation*, it follows that there is only one truly active being in the universe, and that we finite doers are absorbed in the infinite doer. This conception would make the realization of the infinite the absolute negation of the finite. The synthesis of finite and infinite would be that of the lamb and the wolf. But if one start from the assumption of a reality in the finite and individual, the notion of infinite power must be subordinated to that of infinite love or ethical will. Otherwise, the ground is cut from under one's feet, the potential infinitude of the human self is denied, and we are plunged into the inane. There is a dialectic here which can only be overcome by recognizing that omnipotence is a notion to be transcended, and that it merely represents for us the *limit* beyond our indefinite consciousness of power in ourselves and the world.

I have here tried to indicate very briefly the meanings of a notion which has its deepest roots in the moral and religious life and in the accompanying metaphysical craving, rather than in

<sup>2</sup> I should say *must* if this were a systematic discussion in the philosophy of religion.

pure thought. The new infinite of symbolic logic and mathematics illustrates clearly from the side of pure thought the mind's self-transcendence of the actual ; and to this extent it shows pure thought to be in harmony with ethical and religious feeling and speculation. But whether such notions are more than perennial illusions of the human mind, whether reality ultimately meets these demands of feeling and action as well as of thought, must be decided on other and more fundamental considerations. The problem of the place of the *developing* human self and of change in general in the universe, still remains the central problem to which the notion of the infinite is auxiliary and supplemental.

However one may try to answer this metaphysical question, I venture to assert that the most positive, comprehensive, and fruitful notion of the infinite is that of the *ideal limit* of actual human thoughts, feelings, and deeds. But this invites the further and paradoxical conclusion that the infinite has significance for us only so long as we fall short of perfection, and that perfection once achieved, the notion of the infinite must vanish from thought.

Here, on the threshold of metaphysics, the present discussion must end, and I will only say in conclusion that if the term infinite is to continue to be used in philosophical and theological discussion, a sharp distinction must be made between the potential and the actual infinities, *i. e.*, between the infinite as the law or principle of serial order, etc., in human thinking, and the infinite as the absolute limit or fruition of human striving. This distinction is the same as that expressed in Cantor's terms, the "transfinite" and the "absolutely infinite." The new notion of the infinite in its application to metaphysics seems to fluctuate between these two meanings.

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## ON THE *CATEGORIES* OF ARISTOTLE.

THE little treatise of Aristotle which stands at the head of the *Organon* has caused a great deal of difficulty to students, both ancient and modern. The bulk of the discussion has centered about the question of its place in the *Organon* and in Aristotle's system, and the character of the ten categories to which the greater part of the book is devoted. But there have been found also critics who expressed a doubt as to the authenticity of all or part of the treatise in question. To say nothing of the ancient commentators of Aristotle, the earliest attempt in modern times to cast a doubt on the genuineness of the work seems to be that of Spengel in *Münchener Gelehrte Anzeigen*, 1845, Vol. XX, No. 5, pp. 41 sq. He was followed by Prantl in *Zeitschrift für Alterthumswissenschaft*, 1846, p. 646, and in his *Geschichte der Logik*, I, p. 90, Note. 5, also by Valentinus Rose in *De Aristotelis librorum ordine et auctoritate*, p. 234 sq. Zeller, on the other hand (*Philos. d. Griechen*, second edition, II, pt. 2, p. 67, note 1), decides in favor of the genuineness of the first part of the work, the *Categories* proper, and against the so-called *Postprædicamenta* from ch. x to the end.

Before I take up the examination of the evidence adduced by the scholars just mentioned, it is important that I dispose of an erroneous statement which has, to my knowledge, remained unchallenged from the time it was written down by Brandis in 1833 to this day. I refer to his article in *Abhdl. d. Berlin. Akademie*, 1833, entitled "Ueber die Reihenfolge der Bücher des Aristotelischen Organons," etc. He there (p. 257) argues that the *Topics* was written before the *Categories*, for in the former (VII, 6, p. 153a 36) we find the statement ἐπειδὴ ἀνάγκη τὰ ἐναντία ἐν τῷ αὐτῷ ἢ ἐν τοῖς ἐναντίοις γένεσιν εἶναι, whereas in the *Categories* (ch. 11, p. 14a 19) the theory of ἐναντία reached a more developed stage and the case is stated as follows: ἀνάγκη δὲ πάντα τὰ ἐναντία ἢ ἐν τῷ αὐτῷ γένει εἶναι ἢ ἐν τοῖς ἐναντίοις γένεσιν, ἢ αὐτὰ γένη εἶναι; i. e., opposites must be either in the same

genus or in opposite genera, *or be themselves genera*. The addition of the third possibility in the Categories, which was omitted in the Topics, is, to Brandis, a proof of the priority of the latter.

Waitz (Org., I, p. 266), fearing that yielding this point would make it easier for the critics to attack the authenticity of the Categories, cannot answer it otherwise than by dividing the *Post-prædicamenta* from the first part, and while giving up the latter to Brandis to do with it as is right in his eyes, saves the kernel of the treatise from attack — “*quæ feruntur Postprædicamenta ab ipso Aristotele Categoriis adjecta esse haud probabile est.*”

In the case of Brandis, it looks very much as if his argument was the result of a chance lighting on the particular passage above quoted; and if by chance he had hit instead on p. 127b 10, *ἐπειδὴ τὰ ἐναντία ἐν τοῖς ἐναντίοις γένεσιν*, we may presume his argument would have been considered still stronger as showing the Topics to be two steps behind the Categories.

As a matter of fact, however, we find this threefold classification of *ἐναντία* fully developed in the Topics and with more definiteness and detail than in the Categories, and it is strange that it should have escaped Waitz.

P. 123b 1 sq., Aristotle points out how we can examine the correctness of a given genus by reference to opposite species. If a given species of which the genus is in question has an opposite, then the investigator must proceed as follows: (1) If the given genus has no opposite, we must see whether the opposite of the given species is in the same genus as the given species. *For opposites must be in the same genus*, IF THE LATTER HAS NO OPPOSITE. (2) If the genus in question has an opposite, then we must see whether the species opposed to the given one is in a genus opposed to the genus in question. *For the opposite must be in an opposite [genus]*, IF THE GENUS HAS AN OPPOSITE. Finally, (3) the species opposed to the given one may not be in a genus at all, but be itself a genus, as, for example, the good. In that case, *the given species cannot be in a genus either*, BUT MUST ITSELF BE A GENUS, as is the case in the “good” and the “evil,” neither is in a genus, but each is itself a genus. *Ἐπεὶ δὲ ἢ ἐναντίον τι τῷ εἶδει, σκοπεῖν. ἔστι δὲ πλεοναχῶς ἢ σχέσις, πρῶτον*

μὲν εἰ ἐν τῷ αὐτῷ γένει καὶ τὸ ἐναντίον, μὴ ὄντος ἐναντίου τῷ γένει. δεῖ γὰρ τὰ ἐναντία ἐν τῷ αὐτῷ γένει εἶναι, ἂν μὴδὲν ἐναντίον τῷ γένει ᾗ. ὄντος δ' ἐναντίου τῷ γένει, σκοπεῖν εἰ τὸ ἐναντίον ἐν τῷ ἐναντίῳ· ἀνάγκη γὰρ τὸ ἐναντίον ἐν τῷ ἐναντίῳ εἶναι, ἄνπερ ᾗ ἐναντίον τι τῷ γένει. φανερόν δὲ τούτων ἕκαστον διὰ τῆς ἐπαγωγῆς. πάλιν εἰ ὅλως ἐν μὴδενὶ γένει τὸ τῷ εἶδει ἐναντίον, ἀλλ' αὐτὸ γένος, οἷον τὰ γαθόν· εἰ γὰρ τοῦτο μὴ ἐν γένει, οὐδὲ τὸ ἐναντίον τούτου ἐν γένει ἔσται, ἀλλ' αὐτὸ γένος, καθάπερ ἐπὶ τοῦ ἀγαθοῦ καὶ τοῦ κακοῦ συμβαίνει· οὐδέτερον γὰρ τούτων ἐν γένει, ἀλλ' ἑκάτερον αὐτῶν γένος.

It will be seen that not only is the three-fold classification found here in full, but the circumstances are defined which accompany and determine every one of the three possibilities. If there is a development between the Categories and the Topics, it is undoubtedly in the direction of the Topics.

But how are we to explain the omission of the third condition in the passage cited by Brandis, and the omission of both the second and third in 127b 10? The explanation will be evident if we refer to 124a 1 sq. In 123b 1 sq. Aristotle enumerates the various lines of argument which the disputant must have ready to attack the genus named by the opponent. In 124a 1 sq. he names the lines of argument to be followed by anyone who wishes to establish the genus of a given species. If the genus he wants to establish has no opposite, he must show that the species opposed to the given species is in the same genus as the given. If the genus has an opposite, then he must show that the opposed species is in the opposite genus. The third possibility is naturally left out here, for in that case he has no genus to establish.

ἀναρροῦντι μὲν οὖν τοσαυταχῶς ἐπισκεπτέον· εἰ γὰρ μὴ ὑπάρχει τὰ εἰρημένα, δῆλον ὅτι οὐ γένος τὸ ἀποδοθέν· κατασκευάζονται δὲ τριχῶς, πρῶτον μὲν εἰ τὸ ἐναντίον τῷ εἶδει ἐν τῷ εἰρημένῳ γένει, μὴ ὄντος ἐναντίου τῷ γένει· εἰ γὰρ τὸ ἐναντίον ἐν τούτῳ, δῆλον ὅτι καὶ τὸ προκείμενον . . . πάλιν ἂν ᾗ ἐναντίον τι τῷ γένει, σκοπεῖν εἰ καὶ τὸ ἐναντίον ἐν τῷ ἐναντίῳ· ἂν γὰρ ᾗ, δῆλον ὅτι καὶ τὸ προκείμενον ἐν τῷ προκειμένῳ.

127b 10 is evident at once, for the condition is stated at the beginning of the paragraph which determines the first of the



three possibilities — "Ἐτι ὅταν ὄντος καὶ τῷ εἶδει καὶ τῷ γένει ἐναντίου τὸ βέλτιον τῶν ἐναντίων εἰς τὸ χεῖρον γένος θῇ· συμβήσεται γὰρ τὸ λοιπὸν ἐν τῷ λοιπῷ εἶναι, ἐπειδὴ τὰ ἐναντία ἐν τοῖς ἐναντίοις γένεσιν . . . If we now go back to the passages quoted by Brandis, 153a 36, we shall have no difficulty in explaining the omission of the third condition. Chapter iii deals with the topics necessary for *establishing* a definition (153a 6 — ἀναρεῖν μὲν οὖν ὄρον οὕτως καὶ διὰ τούτων [chs. 1 and 2] ἀεὶ πειρατέον· ἐὰν δὲ κατασκευάζειν βουλόμεθα, πρῶτον μὲν εἰδέναι δεῖ . . . ). The first element in the definition is the genus; we must therefore see that the genus is well established (ib. 32, πρῶτον μὲν οὖν ὅτι τὸ ἀποδοθὲν γένος ὁρθῶς ἀποδέδοται). If the thing to be defined is not in a genus at all, but is itself a genus, it cannot be defined; and hence the third possibility is out of place here.

Alexander, in his Commentary on the Topics (Berlin ed., p. 506, 3-5), whom Brandis cites, saw the explanation. His words are: οὐκέτι δὲ προσέθηκεν "ἢ αὐτὰ γένη εἶναι," ὥς ἐν ἄλλοις λέγει, ὅτι μηδὲ χρήσιμον ἦν πρὸς τὸ προκείμενον τοῦτο προστιθέμενον· οὐ γάρ ἐστιν ἡ ζήτησις νῦν εἰ γένος ἐστὶ τὸ προκείμενον, ἀλλ' ὑπὸ τί γένος.

Having shown that there is no reason whatsoever for supposing the Topics earlier than the Categories, I will take up the arguments of Spengel, Prantl, and Rose to prove the spuriousness of the treatise. The purely linguistic peculiarities cited by Spengel and Prantl, Rose himself admits are not of great weight; hence I need not concern myself with them any further. The main argument, however, of all the three critics is the subjective one, that the differences of style and the "senseless" repetitions of the Categories are unworthy of Aristotle and unlike him. This may readily be answered by the consideration that, though the style and general tone of the Categories is very different from that of the Metaphysics or the Posterior Analytics, it is so strikingly similar to that of the middle books of the Topics, both in tone, style, and method of treatment, that one cannot help feeling that they belong to the same period. The following passages in the Topics (106a 9-22, b 17-20; 107a 18-31; 108b 12-19; 122a 31 sq., b 18-24; 127a 3 sq., b 18-20; 129b 5-13, 30 — 130a

14, b 11-15; 141b 15-34; 145b 9-10; 146a 4-7, etc.) exhibit the same diffuseness and repetitions as the Categories, and Book V in particular is characterized by the same uniformity of formula and expression that Rose finds so "un-Aristotelian" in the Categories.

The title, *πρὸ τῶν τόπων*, cited by Simplicius, whether it goes back to Aristotle or not, represents a true notion as to the place of the categories in Aristotle's scheme, and it is the object of this paper by a more minute comparison than has hitherto been made of the two treatises in question, to prove this statement.

Besides the general similarity in tone and style, there are found single words and phrases common to the two works, though but rarely if at all found elsewhere, at least, in the Organon. For example, 3a 36: *ἀπὸ μὲν γὰρ τῆς πρώτης οὐσίας οὐδεμία ἐστὶ κατηγορία*, and 109b 4 *ἀπ' οὐδενὸς γὰρ γένους παρωνύμως ἢ κατηγορία κατὰ τοῦ εἶδους λέγεται*. *κατηγορία* in this sense is rare in Aristotle (cf. Trendelenburg, *De Arist. Categ.*, pp. 8-9; *Gesch. d. Kategorienlehre*, p. 5; Bonitz, "Ueber die Kateg. d. Arist.," *Sitzungsb. d. phil.-hist. Kl. d. Kais. Akad. d. Wiss. zu Wien.*, X, pp. 591 ff., esp. 602, n. 2, 620-23), and with the combination of *ἀπὸ* as above is sufficiently striking to argue identity of authorship.

Again, 8a 33, *ὁ δὲ πρότερος ὁρισμὸς παρακολουθεῖ μὲν πᾶσι τοῖς πρὸς τι, οὐ μὴν τοῦτό γε ἐστὶ τὸ πρὸς τι αὐτοῖς εἶναι τὸ αὐτὰ ἅπερ ἐστὶν ἐτέρων λέγεσθαι*, and 125b 24 *ἴσως μὲν οὖν ἀκολουθεῖ δύναμις ἑκατέρῳ τοιαύτῃ . . . οὐ μὴν τοῦτό γε ἐστὶ τῷ μὲν ἀνδρείῳ τῷ δὲ πρᾶφ εἶναι . . .* Here again the phrase *οὐ μὴν τοῦτό γε ἐστὶ* is rare, if at all found anywhere else, and in the passage cited, it is used in both instances with *ἀκολουθεῖ* or *παρακολουθεῖ*, in the preceding clause to express the difference between the real definition, which signifies the essence of the thing defined, and an attribute or property, which, while always present with the thing, does not represent its essence. (Waitz is no doubt correct in adopting in 8a 34 the reading given above, *τοῦτο γέ ἐστι τό*, in preference to Bekker's *ταυτὸν γέ ἐστι τῷ*, as appears from the similar passage in the Topics, 125b 26, though neither Waitz (I, p. 302) nor Prantl (*Ztschr. f. Alterthumswissensch.*, 1846, p. 650), who, in fact, opposes Waitz's reading, knew of the passage in the Topics.)

The mean between the contraries is generally, though not always, in the *Physics* and the *Metaphysics* designated by the term *μεταξύ*; in the *Categories* and the *Topics*, in the former exclusively, by the term *ἀνὰ μέσον*; cf., for example, 12a 2, 3, 9, 10, 11, 17, 20, 23, 24; b 28, 30, 32, 35, 36; 13a 7, 8, 13, and 106b 4, 5, 8, 10, 11; 123b 18, 19, 23, 25, 27, 29; 124a 6, 7; 158b 7, 22, 38.

Compare also *ὁ κατὰ τοῦνομα λόγος*, 1a 2, 4, and 107a 20; also 1a 13, *τὴν κατὰ τοῦνομα προσσηγορίαν*, with 107a 3, *τῶν κατὰ τοῦνομα κατηγοριῶν*.

1b 16, *τῶν ἐτέρων γενῶν καὶ μὴ ὑπ' ἄλληλα τεταγμένων ἑτεραι τῷ εἶδει καὶ αἱ διαφοραί, οἷον ζῴου καὶ ἐπιστήμης . . .* = 107b 19 *ἐπεὶ δὲ τῶν ἐτέρων γενῶν καὶ μὴ ὑπ' ἄλληλα ἑτεραι τῷ εἶδει καὶ αἱ διαφοραί, οἷον ζῴου καὶ ἐπιστήμης . . .*

The opposite of *αὔξησις* in the scientific and metaphysical works of Aristotle is invariably *φθίσις*, in the *Categories* (15a 13-14) and in the *Topics* (122a 28) it is *μείωσις* (cf. Prantl, *Ztschr. d. Alterthumswiss.*, 1846, p. 651). In one instance (320b 31) *φθίσις* is defined by *μείωσις* (*ἣ δὲ φθίσις μείωσις*), the less known by the more known, and this accounts very readily for the use of the latter in the *Topics*, which is a popular treatise, and the *Categories* is of the same character. The other kinds of motion not being mentioned in the *Topics*, there is no possibility of the *Categories* having borrowed it from the *Topics*.

Compare also 11a 2, *τά γε κατὰ ταύτας λεγόμενα . . . ἐπιδέχεται τὸ μᾶλλον καὶ τὸ ἥττον*, and 127b 20, 24 *τὸ δ'εἶδος μὴ δέχεται* [sc. *τὸ μᾶλλον καὶ ἥττον*] *μήτ' αὐτὸ μήτε τὸ κατ' ἐκεῖνο λεγόμενον*.

So much for purely linguistic similarities. When we pass over to matters of doctrine, it is surprising how many points of contact there are between the two works. I shall follow the *Categories* and point out the parallels in the *Topics*.

The homonymns, which are given a definition and an illustration in the beginning of the *Categories*, have a whole chapter devoted to them in the *Topics*, the 15th of the first book, where they are also called *πολλαχῶς λεγόμενα*. Of particular significance is 107a 18-20, for in 20 we seem to have a direct allusion to the definition in the *Categories*. We must see, Aristotle says, if the

genera designated by the given name are different and not subordinate to one another, as, for example, ὄνος applies to the genera ζῶον and σκεύος (which is therefore a homonym), for the definition of these genera as connected by the name is different (ἕτερος γὰρ ὁ κατὰ τοῦνομα λόγος αὐτῶν). The greater space given to homonyms in the Topics is not due so much to a development in doctrine as to the necessities of the subject. The object of the Topics is a purely practical one, to provide the disputant with ready arguments properly pigeon-holed, and a single general definition of homonyms is not adapted to such use. We must needs go further and show in what different special ways homonyms can be detected. The Categories have more the appearance of materials gathered in the shape of preliminary definitions of necessary concepts.

Synonyms are referred to in the Topics 109b 7, 123a 27, 127b 5, 148a 24, and 162b 37. Of these, the first is the most important, since it states that the genera are predicated synonymously of their species; *for the latter admit both the name and the definition of the former* (καὶ γὰρ τοῦνομα καὶ τὸν λόγον ἐπιδέχεται τὸν τῶν γενῶν τὰ εἶδη), assuming it as established that this condition constitutes synonymity. This is neither more nor less than a silent reference to the definition in the Categories (1a 6) — συνώνυμα δὲ λέγεται ὧν τὸ τε ὄνομα κοινὸν καὶ ὁ λόγος ὁ αὐτός. Moreover, we have almost the very words of the Topics in another place in the Categories, 3b 2, καὶ τὸν λόγον δὲ ἐπιδέχονται αἱ πρῶται οὐσίαι τὸν τῶν εἰδῶν καὶ τὸν τῶν γενῶν, καὶ τὸ εἶδος δὲ τὸν τοῦ γένους. 148a 24 also gives the same definition of synonyms merely in passing. Aristotle is dealing with the definition, and makes a statement that if the opponent makes use of one definition for homonyms it cannot be a correct definition, for it is synonyms and not homonyms that have one definition connoted by the name (συνώνυμα γὰρ ὧν εἰς ὁ κατὰ τοῦνομα λόγος). He speaks of the definition as already known. Similarly in 162b 37, καὶ ἐν ὅσοις τὸ ὄνομα καὶ ὁ λόγος τὸ αὐτὸ σημαίνει is a definition of "συνωνύμους" preceding, and the καί is epexegetic (cf. Trendelenburg, *Element. Log. Arist.*, 6th ed., 1868, pp. 126-7).

Paronyms also are made use of in the Topics, 109b 3-12, in

a way which shows that the definition in the Categories is not purely grammatical, as it may seem at first sight, but has a logical significance quite as important as that of the former two. Paronymous predication is predication *per accidens*, as contrasted with synonymous, which may be *per se* (cf. also Trendelenburg, *Gesch. d. Kategorienlehre*, p. 27 sq. and 30). Here also paronyms are not defined. It is assumed that the reader knows what they are.

The difference between καθ' ὑποκειμένου λέγεσθαι and ἐν ὑποκειμένῳ εἶναι, stated in the Categories 1a 20 sq., is assumed as known in the Topics 127b 1 sq., ἔτι εἰ ἐν ὑποκειμένῳ τῷ εἶδει τὸ ἀποδοθὲν γένος λέγεται, καθάπερ τὸ λευκὸν ἐπὶ τῆς χιόνης, ὥστε ὁῖον ὅτι οὐκ ἂν εἴη γένος· καθ' ὑποκειμένου γὰρ τοῦ εἶδους μόνον τὸ γένος λέγεται (cf. also 126a 3 and 144b 31). Strange to say, however, after these distinctions Aristotle himself uses them interchangeably in 132b 19 sq.

Categories 3, p. 1b 10–15 expresses very much the same thought as Topics IV, 1, p. 121a 20–6. The former states that whatever is true of the species is true of the individuals under the species (ὅσα κατὰ τοῦ κατηγορουμένου λέγεται, πάντα καὶ κατὰ τοῦ ὑποκειμένου ῥηθήσεται), the latter that to whatever the species applies the genus does also (καθ' ὧν γὰρ τὸ εἶδος κατηγορεῖται, καὶ τὸ γένος δεῖ κατηγορεῖσθαι). They both involve the logical hierarchy of genus, species, and individual, and the two principles are : (1) The genus applies not only to the species, but also to the individual ; (2) to the individual belongs not only the species but also the genus. What is especially important to notice is that, in the Topics, the principle is stated as already known and is applied to the particular case, thus assuming the existence of another treatise where these principles are stated and proved for the first time.

The treatment of the difference develops gradually in the Topics in the following passages : 107b 19 sq., 144b 12 sq., and 153b 6. The first of these is word for word the same with the statement in the Categories, 1b 16 sq., and they were both quoted above. Moreover, the way in which the passage in the Topics is introduced, ἐπεὶ δὲ τῶν ἐτέρων γενῶν, etc., makes it a direct reference to the Categories. Aristotle's doctrine concerning the

difference so far is that of different genera which are not subordinated one to the other; the differences are different in species. In the second passage quoted above, 144b 12, Aristotle corrects this view by adding that the differences in the given case need not be different unless the different genera cannot be put under a common higher genus. In the third passage, 153b 6, Aristotle adds some more qualifications which make it clear that in the preceding statements the word *ἐτέρων*, in the phrase *ἐτέρων γενῶν*, must not be understood as including contrary genera (*ἐναντία*). For there the case is different. If the contrary genera can be put under the same genus, then some or all their differences are contrary also. If the contrary genera belong to higher contrary genera, their differences may be all the same.

The preceding examination seems to show very clearly that the Topics build upon the basis laid down in the Categories and carry the structure higher and broader. It would be a very absurd alternative to suppose that a later writer, making use of the Topics, found nothing else on the subject of logical difference than the first passage, which he copied *verbatim* in his treatise, where, besides, it has no particular reason for existence. As a thought tentatively suggested, with the view of further elaboration and insertion as a proper link in a chain, the passage in the Categories assumes a different meaning, and its lack of connection with the preceding and following ceases to cause us serious difficulty.

If the view of the Categories taken here is justified by the preceding arguments and by what is still to come, it might even be a legitimate procedure to make use of the Topics in determining a disputed reading in the Categories. And we have one at hand in the passage quoted above on the difference.

Of genera which are subordinated one to the other, there is nothing, Aristotle says, to prevent the differences from being the same. For the higher genera are predicated of the lower, so that all the differences of the higher are also differences of the lower (*ὥστε ὅσαι τοῦ κατηγορουμένου διαφοραὶ εἰσὶ, τοσαῦται καὶ τοῦ ὑποκειμένου ἔσονται*). The last statement is manifestly untrue if it means that all the differences of the genus are also differences of any of its species. For example, the differences of *ζῷον* are

πεζόν, πτηνόν, ἔνυδρον, etc. But surely these are not all differences of ἄνθρωπος, nor is any one of them a difference of ἄνθρωπος; for a difference of any class is that which, added to the name of the class, restricts it to a lower species; but πεζόν added to ἄνθρωπος merely repeats it, so that it is not the difference of ἄνθρωπος.

To obviate this difficulty, the Greek commentators, Porphyry, Dexippus, Simplicius, and the rest divide differences into 'constitutive' (συμπληρωτικαί) and 'divisive' (διαρετικαί) so that πεζόν, πτηνόν, and ἔνυδρον are divisive or specific differences of ζῷον, because, added to ζῷον, they divide it into its various species; at the same time, πεζόν is a constitutive difference of ἄνθρωπος, as forming part of its definition. With this distinction the meaning of the text is supposed to be that all the constitutive differences of the higher are also constitutive of the lower. This is not satisfactory, for Aristotle does not use differences in this sense (cf. Waitz, I, p. 279). Boethus (*ap. Simplic. Basileae*, 1551 f. 14b) emended the text to read ὅσα τοῦ ὑποκειμένου . . . τοσαῦται καὶ τοῦ κατηγορουμένου ἔσονται. This emendation was not adopted by the later commentators, but there is a passage in the Topics which may be considered to favor it—111a 25–29. οὐ γὰρ ἀναγκαῖον, ὅσα τῷ γένει ὑπάρχει, καὶ τῷ εἶδει ὑπάρχειν· ζῷον μὲν γὰρ ἐστὶ πτηνόν καὶ τετράπουν, ἄνθρωπος δ' οὐ. ὅσα δὲ τῷ εἶδει ὑπάρχει, ἀναγκαῖον καὶ τῷ γένει· εἰ γὰρ ἐστὶν ἄνθρωπος σπουδαῖος, καὶ ζῷόν ἐστι σπουδαῖον.

The ten Categories enumerated 1b 25 sq., are very frequently referred to in the various Aristotelian writings (cf. the table in Prantl, *Gesch. d. Logik*, I, p. 207, note 356) but nowhere do we find the complete number ten except in the Topics 103b 22 where they are given in the very same order as in the Categories. They are not defined, thus showing that they are not treated there for the first time.

The discussion, 3b 10, whether οὐσία, and particularly δευτέρα οὐσία, is τόδε τι or not, is again referred to in *Περὶ Σοφιστικῶν Ἑλέγχων*, which, according to Waitz and Pacius, is the ninth book of the Topics. The passages are 169a 35, 178b 38, 179a 8. Here it is difficult to tell which was written first. The view in

the Categories, that the δευτέρα οὐσία περὶ οὐσίαν τὸ ποιοὺν ἀφορίζει, ποιοῦν γὰρ τινα οὐσίαν σημαίνει, looks like a compromise, and, as such, might be supposed to be later than the similar discussion in the Sophistic Refutation which denies the character of τόδε τι to the universal: φανερόν οὖν ὅτι οὐ δοτέον τόδε τι εἶναι τὸ κοινῇ κατηγορούμενον ἐπὶ πᾶσιν.

One of the arguments that Prantl builds much on to prove the Categories spurious is the corrected definition of the category of relation, 8a 32: ἔστι τὰ πρὸς τι οἷς τὸ εἶναι ταύτων ἔστι τῷ πρὸς τί πως ἔχειν. This definition is a proof to Prantl (*loc. cit.*, p. 90, n. 5) that the Categories was not written before the time of Chrysippus; for, he continues, *what occasion could one possibly have had before Chrysippus to ask whether πρὸς τι is the same as πρὸς τί πως ἔχον?* The expression, πρὸς τί πως ἔχειν, he asserts further, *is never found again in all the works of Aristotle.* In the first statement he has reference to the Stoic division of existents into four classes, ὑποκείμενα, ποιὰ, πρὸς τι, and πρὸς τί πως ἔχοντα. The difference between the last two is thus expressed by Simplicius (*ap. Prantl*, I, p. 435, n. 101): πρὸς τι μὲν λέγουσιν ὅσα κατ'οἰκῆϊον χαρακτῆρα διακείμενά πως ἀπονέυει πρὸς ἕτερον, πρὸς τι δὲ πως ἔχοντα ὅσα πέφυκε συμβαίνειν τινὶ καὶ μὴ συμβαίνειν ἄνευ τῆς περὶ αὐτὰ μεταβολῆς καὶ ἀλλοιώσεως μετὰ τοῦ πρὸς τὸ ἐκτὸς ἀποβλέπειν. As examples of the former, he gives ἔξις, ἐπιστήμη, αἴσθησις, which, while being related to something else, have a character of their own; of the latter πατήρ, υἱός, δεξιός, whose very essence is exhausted in their relation to something else. Hence Prantl jumps to the conclusion that the author of the Categories was a late Peripatetic influenced by the Stoic doctrine.

But a little linguistic analysis will show us that Prantl confused cause and effect. Only on the assumption of the existence of the Categories before the Stoics can we rationally explain the origin of the division and the terms. In itself, πρὸς τί πως ἔχον ought to signify a less strict relative than πρὸς τι; the effect of the πως would be to weaken the force of the πρὸς τι, and if the Stoics were the first to coin these terms, they would have probably changed them about. But the process becomes transparent when we suppose that the Stoics had the book of the Categories before them. Here the restrictive force in the second definition lies not in



the words *πρὸς τί πως ἔχειν*. These are merely a repetition of the original definition (6a 36), *ὅσα αὐτὰ ἄπερ ἐστὶν ἐτέρων εἶναι λέγεται, ἢ ὅπως οὖν ἄλλως πρὸς ἕτερον*, where the genitive relation of *ἐτέρων* and the other relations of *ὅπως οὖν ἄλλως* are briefly summed up in *πρὸς τί πως ἔχειν*. The restrictive force lies in the few words that precede, *οἷς τὸ εἶναι ταυτόν ἐστι τῷ πρὸς τί πως ἔχειν*. Now the Stoics were of the opinion that the class of relation ought really to be divided into two classes, and they retained the name *πρὸς τι* for the first, and for the second they abbreviated the definition, and the result was the catchword (for that was all that was wanted) *πρὸς τί πως ἔχον*.

For the second statement of Prantl, that *πρὸς τί πως ἔχειν* is never found in the works of Aristotle, rash is a mild term. Waitz had already pointed out (*Org.*, I, p. 266) that, in the *Topics*, Aristotle makes use of this corrected definition, Zeller (*loc. cit.*) adds 247a 2, b 3; 1101b 13, and we may add also 170b 30, 39. *ἐν τῷ τὸν ἀποκρινόμενον ἔχειν πως πρὸς τὰ δεδομένα . . . οὐ τῷ τὸν ἀποκρινόμενον πρὸς τούτους ἔχειν πως*.

The two passages in the *Topics* where use is made of the second definition are 142a 29 and 146b 4. Of these both have the appearance of referring to something that is already known, particularly the second, where the form *ἦν (ἐπειδὴ τῶν τῶν ἑκάστω τῶν πρὸς τι τὸ εἶναι ὅπερ τὸ πρὸς τί πως ἔχειν)* is clearly a reference to another place. This can scarcely be an allusion to the first passage in the *Topics*, for there is no proof of any kind there; it is all assumed. The close connection of the *Categories* with the *Topics* is shown here again, for these are the only two that have the second definition. In the *Metaphysics*, 4, 15, p. 1021a 28, the first alone is used.

The reciprocal relation obtaining between the relative and its correlative, and the care necessary to properly designate the correlative in order to bring about this reciprocal relation as treated in the *Categories*, 6b 28 sq., are again referred to in the *Topics*, 125a 5 and 149b 4 sq., 12. In both passages cited, this attribute of reciprocity or convertibility (*πρὸς ἀντιστρέφοντα λέγεσθαι*) is assumed as known, and the necessity of getting the proper correlative (*πρὸς ὃ λέγεται*) is, in the latter passage, deduced from this attribute of the category of relation.

Topics, *A*, 6, p. 127b 18–25, reminds one of the similar discussion and phraseology of the Categories, pp. 10 b 26–11a 2. Particularly the phrase τὸ κατ' ἐκεῖνο λεγόμενον, used in the Topics without any further explanation, as a familiar expression, looks very much like a reminiscence of τὰ γε κατὰ ταύτας λεγόμενα in the Categories, which in turn is an abbreviated form, or at least is connotive of the phrase (10a 27), τὰ κατὰ ταύτας παρωνύμως λεγόμενα ἢ ὅπως οὖν ἄλλως ἀπ' αὐτῶν, and of the illustrative passage following.

The distinction made between πρὸς τι καθ' αὐτὸ and κατὰ τὸ γένος in Categories, p. 11a 23–36, and the question which this naturally raises, whether it is possible for the genus to be in a different category from its species, are mentioned again — 120b 36 sq., 124b 15 sq., 146a 36, 173b 2.

If we examine the treatment of ἀντικείμενα in the Topics, 106a 36 sq., 109b 17 sq., 123b 18–124a 9, 124a 35 sq., 143b 35, there will be no doubt left in our minds that it is based on that of the Categories, 11b 34 sq., rather than on the discussion of the Metaphysics, 1018a 20 sq., or 1055a 3 sq. We find the three-fold classification of ἐναντία as found in Categories (14a 19), viz.: (1) in the same genus; (2) in opposite genera; (3) not in genera at all, being themselves genera (see above). The mean between the two extremes is designated in the Categories exclusively, in the Topics all but exclusively (the only exception being 123b 14, 17, 18), by the term ἀνὰ μέσον instead of by μεταξύ, which is the term used in the Metaphysics, 1057a 21 sq. (cf. Waitz, I, 310), while in the first passage, 1018a 20, where the classification of ἀντικείμενα is given, there is no mention at all of the mean.

This mean, the Categories (12a 20) tells us, is in some cases designated positively (ὀνόματα κεῖται τοῖς ἀνὰ μέσον), in some negatively (τῇ ἑκατέρου τῶν ἄκρων ἀποφάσει), and examples are given to substantiate the statement. In the Topics, 123b 20, the truth is made use of as one already known: ἢ εἰ ἔστι μὲν τι ἀμφοῖν ἀνὰ μέσον, καὶ τῶν εἰδῶν καὶ τῶν γενῶν, μὴ ὁμοίως δέ, ἀλλὰ τῶν μὲν κατὰ ἀπόφασιν τῶν δ' ὡς ὑποκείμενον. An illustration is given but the meaning of the terms is not explained. The definition of στέρησις, in the Categories, 12a 29, is referred to in the Topics,

106b 27: ὅτι δὲ κατὰ στέρησιν καὶ ἑξὶν ἀντίκεινται τὰ νῦν λεγόμενα [sc. αἰσθάνεσθαι] (ἀναίσθητον εἶναι), ὁῖον, ἐπειδὴ πέφυκεν ἑκατέραν τῶν αἰσθήσεων ἔχειν τὰ ζῶα . . . and 143b 35 τυφλὸν γὰρ ἐστὶ τὸ μὴ ἔχον ὄψιν, ὅτε πέφυκεν ἔχειν.

Another reminiscence of the Categories is found at 131a 14-15, where Aristotle, in speaking of ἴδιον, says that it is not proper to assign as ἴδιον of an object a term or phrase involving the ἀντικείμενον of the object or what is ἅμα τῇ φύσει with it or what is ὑστερον, since these last do not make the thing clearer, and it is for the sake of greater clearness that the ἴδιον is used. Now it will be noticed that these three topics, ἀντικείμενα, ἅμα, and ὑστερον are actually discussed in succession, though not in the same order, in the Categories, 11b 16, 14a 26, and 14b 24.

The term ἀντιδιηρημένον, and the idea denoted by it, seem to be peculiar to the Categories and the Topics. In the former it is defined in connection with the treatment of ἅμα (14b 33), and in the latter it is made use of as a familiar term (136b 3, 142b 7, 143a 34). Another consideration which makes it unlikely that the author of the *Postprædicamenta*, not Aristotle, based his work on the Topics is that in treating of ἅμα he does not include ἀντικείμενα as one class of ἅμα τῇ φύσει, whereas he must have done so if he had before him 131a 16 (τὸ μὲν γὰρ ἀντικείμενον ἅμα τῇ φύσει) or 142a 24 (ἅμα γὰρ τῇ φύσει τὰ ἀντικείμενα).

Finally, another argument made much of by those who deny the authenticity of the Categories (cf. espec. Prantl, *Ztsch. d. Alterth.*, 1846, p. 651) is the mention of six kinds of motion instead of three, or at most four, as Aristotle gives in the Physics (cf. Waitz, I, p. 318 sq.) Since the kinds enumerated are the same here as in the Physics, and the difference lies only in reckoning γένεσις and φθορά, αὔξεισις and μείωσις (φθίσις) as two or as four, there would be little in the argument to stay our conviction of the authenticity of the work, but this very peculiarity seems to make my case stronger; for, in the first place, I have already shown above that whereas in the other works of Aristotle φθίσις is the contrary of αὔξεισις, in the Categories and the Topics it is μείωσις, and it is not likely that it was borrowed in the Categories from the Topics, since

the complete list of the kinds of κίνησις is nowhere given in the Topics. In the second place, it appears from two passages in the Topics that, at the time of its composition, Aristotle regarded αὔξεσις and μείωσις (φθίσις), as two, and similarly, γένεσις and φθορά as two. The passages are 111b 7, οἷον αὔξεσθαι ἢ φθείρεσθαι ἢ γίγνεσθαι ἢ ὅσα ἄλλα κινήσεως εἶδη, and 122a 28, εἰ οὖν ἡ βάδισις μήτ' αὔξεσεως μήτε μειώσεως μήτε τῶν ἄλλων κινήσεων μετέχει. . . .

I have shown, I trust, not only that the treatise of the Categories is closely related to that of the Topics, but also that it was written before the latter and serves as a basis for it upon which it builds, very often going beyond the Categories. This applies to the first nine chapters, properly called Categories, in the same measure as to the *Postprædicamenta*. The unity of the book of the Categories as we now have it is also maintained by Valentinus Rose (*De Arist. libr. ord.*, etc., p. 235). *Ergo*, the whole work is genuine, and its peculiar character is to be explained on the ground of its being one of the earliest attempts of Aristotle.

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PROCEEDINGS OF THE FOURTH ANNUAL MEETING  
OF THE WESTERN PHILOSOPHICAL  
ASSOCIATION, HELD AT COLUMBIA,  
MISSOURI, APRIL 1 AND 2, 1904.

REPORT OF THE SECRETARY.

THE fourth annual meeting of the Western Philosophical Association took place at Columbia, Missouri, April 1 and 2, 1904. The sessions were held in the Academic Hall of the University of Missouri. In the regretted absence of the president, Professor Patrick, the chair was taken by Professor A. R. Hill. Not more than two papers, and in some cases only one, had been placed upon the programme for any one session; the result was that, for the most part, there was rather general and extended discussion, which added greatly to the interest and value of the meeting. Besides a considerable attendance of non-members, seventeen members were present, including representatives of seven universities and colleges. The hospitality of the Faculty of the University of Missouri was most generous and delightfully informal; so that the social purposes of such a gathering of fellow-specialists were successfully realized.

At the business meeting, the question of affiliation with The American Philosophical Association was again brought up, but after some discussion was laid on the table. The selection of time and place for next year's meeting was left to the Executive Committee. The following resolution was adopted: "The members of The Western Philosophical Association desire to express their cordial personal regret at the removal of Professor Frank Thilly out of the section represented by the Association, and to wish him the greatest success and satisfaction in his new field of work. To Dr. Thilly, as one of its founders and most active supporters, the Association is under great obligations; to his influence have been in no small measure due the interest of its meetings and the spirit of philosophical good-fellowship that has characterized them." The following were elected to office

for the ensuing year : President, A. Ross Hill, of the University of Missouri ; Vice-President, E. L. Hinman, of the University of Nebraska ; Secretary-Treasurer, Arthur O. Lovejoy, of Washington University ; members of the Executive Committee, Frank Sharp, of the University of Wisconsin, and H. W. Stuart, of the University of Iowa.

Abstracts of the papers presented are appended, in so far as the Secretary has been able to secure them.

ARTHUR O. LOVEJOY.

1. **The Significance of Attitudes in Psychology.** By THADDEUS L. BOLTON.
2. **Memory and the Economy of Learning.** BY ROBERT MORRIS OGDEN.

One of the first considerations for economy in learning is the analysis of types of learners and ways of learning. There are three main factors in the fundamental type distinctions : visual, aural, and kinæsthetic. One also makes a functional distinction between an intellectual and a sensory type. The first is logical and objective. This person considers the presentation as it is. Only such supplementary ideas as are requisite to a clear understanding are reproduced. A certain mental inertia characterizes this person, in that he has a tendency to persevere along lines of thought already formulated. The second is subjective. Sense perceptions as such mean much to him. Each furnishes a strong motive for reproduction. This person's ideas are concrete rather than abstract.

There are two ways of learning corresponding to these two types, a slow and a fast. The first enables the learner to observe carefully and reason logically. The second relies more on the total effect produced by the close proximity of the sense impressions. Increased speed stimulates the attention, which becomes a valuable factor in this method of learning.

In applying these facts in the school room, greater tolerance should be shown the quick-learning pupil. It does not follow that because he learns quickly he will forget quickly. Individuals who are sensory in type and accustomed to a fast method of

learning retain more by it than when compelled to learn at a slower rate. It is important that pupils should be studied with respect to their typical differences and an attempt made to appeal to them in accordance with their natural tendencies. It seems highly probable that, if taken at an impressionable age, children could be taught to overcome tendencies towards extreme inertia or automatism and trained to greater skill and efficiency in handling their fundamental mental factors.

[Published in full, *Psychological Bulletin*, Vol. I, No. 6.]

### 3. **Spencer's First Principles.** By EDGAR L. HINMAN.

This paper, prepared for the purpose of opening the general discussion on Herbert Spencer's philosophy, divided the teachings of the *First Principles* into three portions: The doctrine of the unknowable reality, the metaphysics of force, and the deductive interpretation of evolution. The Unknowable was treated as having a certain relative justification, inadequate to the establishment of agnosticism; but as being in any case irrelevant to the genuine work of philosophical synthesis. It may, therefore, be disregarded. The theory of Force was regarded as resting upon a confusion between a dynamical metaphysic of matter and the physical doctrine of the conservation of energy. If consistently taken in the former sense, much of truth may be found in the doctrine, but no basis is afforded for the naturalism of the system. If taken in the latter sense, it is a mistake to suppose that the entire system of natural laws and processes can be deduced from the persistence of force. The principle of the conservation of energy is purely quantitative and determines nothing regarding the qualitative form or condition in which its quantitative demands shall be met. Regarding the nature of evolution, it was shown that Spencer's philosophical synthesis depends essentially upon the success of a deductive interpretation derived from the persistence of force. And since the persistence of force is, in practice, generally read naturalistically, this implies an attempt to find the meaning of an evolutionary process in the cheapest and poorest categories which can be applied. This method of interpretation was contrasted with the Aristotelian interpretation in terms of the

end or perfect product. It was then urged that Spencer does not succeed in carrying through his naturalistic rendering of evolution. On the other hand, at every stage in which some new element or factor appears in his philosophy, the true source of the new factor is to be found, not in the elements which have previously been recognized, but rather in a new definition of the nature of the Real. In spite of himself, therefore, he is driven to a basing of evolution upon what is virtually its goal or most perfect expression. His failure to admit this leaves his evolutionary theory a continuous *petitio*. These points were illustrated by an analysis of four important steps in the process of evolution, as described by Spencer.

#### 4. **Spencer's Sociological Method.** By CHARLES A. ELLWOOD.

However grateful sociologists may be to Spencer for his pioneer work in their field, they are forced to criticize his scientific method. Spencer himself characterized his method as "deduction fortified by induction"; but it has been caricatured, perhaps not unfairly, as "speculation fortified by illustration." It is certain that Spencer made many wrong uses of deduction and induction in developing his sociological theories. Among the more obvious criticisms which might be made upon Spencer's sociological method are the following: (1) Spencer adopts the 'leading-theory' method of investigation rather than the method of multiple working hypotheses. This leads him to select his instances to support his theory rather than to build up a theory from the facts. In the case of his leading theory of evolution it leads him to extremes; he is anxious, for example, to evolve everything from chaos. (2) Spencer's conception of evolution is not broad enough to furnish a safe basis for deduction. It is too materialistic, for one thing. He also conceives of evolution mainly as a linear process. (3) Spencer makes an illegitimate use of the evolutionary method in assuming that an account of the evolution of things can determine their social and moral validity. (4) Spencer's over-emphasis on the evolutionary method leads him, on the one hand, to lay too great stress on the facts of primitive and barbarous societies; on the other hand,



to neglect the facts of present society. (5) Perhaps to Spencer's extreme evolutionism must be ascribed also his failure to use definition. He seldom clearly defines his terms. (6) Spencer's sociology, despite his assertion to the contrary, rests more upon his biology than upon psychology. This results again from his materialistic evolutionism. (7) Finally, Spencer may be criticized for using the organic conception of society in a too realistic way.

### 5. Ethics and its History. By ALFRED H. LLOYD.

Ethics should not be defined as in any way peculiar and exclusive, for example, as a 'normative' science; ethics is only natural science serving life; *it is the study of the conditions of action with a view to action*. Those who find that, in history, ethics, although condescending to use natural science, has never really depended on it, read their history falsely, forgetting the conditions under which ethical inquiry arises and the demands upon the answer that these conditions inevitably make. Thus the inquiry is born of life's typical struggle between the old and the new, the formed and the unformed, and the rigoristic and hedonistic answers of duty and pleasure are only abstractions for the interests of the two parties to this struggle. Neither duty nor pleasure really answers the inquiry, because as an asserted ideal it becomes (1) extra-natural, and (2) formal, and because (3) it always has the other in opposition, and is accordingly in itself *ex parte* and apologetic. Can an answer to any question come exclusively from either party to the conflict that has made the question? Moreover, to argue that in times past and even at the present time either of them has often been ethically satisfying, making an adequate standard for large classes in human society, may be favorable to the case of a 'normative' ethics, but it commits the serious fallacy — so common in historical studies — of confusing a class-character with a well-rounded experience, with the true unity of experience, which belongs only either to the personal individual or to society as a whole. Class-characters make, not self-sufficient wholes of experience, but mere professions, which taken all together only divide the labor of maintaining socially, that is,

in a magnified, specially differentiated, technically developed form, the unity of experience comprised in the personal individual. Accordingly, history shows ethics independent, only as division of labor makes things independent, and it suggests that in social life, while the professional moralists, by their controversies, by their rigorism, and by their hedonism, may formulate the demands that the conditions of ethical inquiry put upon the answer, they do not give any adequate answer. The adequate answer, in the form of something concrete, uniting both duty and pleasure, can come, and in history always has come, only through natural science; socially and historically, history being so different from biography, through the profession of natural science; individually and biographically, through science as direct personal experience, as personal study of a personally interesting situation. Science, as study of the conditions of action manifested in the course of action, reveals to the inquirer, not an impossible choice of two abstract ideals, but something that is bound to be at once dutiful and pleasant, and that is something to do instead of merely to seek.

[To be published in full probably in the *American Journal of Sociology*.]

6. **The Need of a Logic of Conduct.** By HENRY W. STUART.

The negative criticism directed against Intuitionism and Utilitarianism by advocates of the ethical theory of Self-realization may be regarded as conclusive. Green bases his ethics upon his epistemological metaphysics, and it is from this latter point of view, in the main, that he examines the two rival ethical theories opposed to his own. Nevertheless, he is at pains to show that Utilitarianism not only has a false psychology of motive and cannot explain the distinctive features of the moral consciousness as we know it, but also that it does not really possess the high degree of practical usefulness which its authors have claimed for it. Accordingly, he feels it incumbent upon him to show that his own theory is superior to Utilitarianism in this respect. The chief interest and value of the theory of Green and his followers lies just in this suggestiveness (thus brought to light through constraint

of controversial necessity, rather than from the impulse of a clear and direct and positive persuasion of its prime importance) in the direction of a method of logical procedure for the solution of concrete ethical problems.

It is from this point of view, accordingly, that Green's metaphysics must be judged. What is its logical (*i. e.*, methodological) value? Green holds that belief in the ideal of the Absolute Self: (1) furnishes the agent in an ethical situation with an ideal of personal perfection, of motive without reference to foreseen consequences; and (2) directs his attention to the history of his own past morality and that of the race, giving him assurance that therein is to be found such approximate delineation of the self-realizing Absolute as will serve his present need of guidance in detail. Here, obviously, is the metaphysics of the Absolute Self put to methodological uses. But, we must urge: (1) The distinction of motive and consequences in Green's sense is utterly untenable, and with it must be given up also the ideal of a perfectly motivated self as the goal of endeavor; (2) the resort to history must always be taken in the light of the present concrete interest, and cannot be made more fruitful of results if taken with the presumption that history is a texture into which certain threads of absolute meaning have been woven.

Instead of an ethics in which an Absolutist metaphysics is made to serve by way of method, we therefore need a logic of conduct. Thus (1) the concept of a self to be realized should be interpreted, not as a descriptive ideal, but as, in the last resort, a stimulus to a logical procedure constructive of objective intentions. The conscientious questioning of motives is a symptom of the process of reforming the intention or giving it over for another; (2) in place of a resort to history, such as Green conceives logically possible and useful, there is need of a method whereby history (as summarized in institutions and in moral ideals) may be drawn upon for suggestions toward modes of conduct likely to hold their own as habits in the individual and gain acceptance in society. Thus ethics should be neither a system of dogmatic morality, avowed or in disguise, nor (as many writers are at present demanding) a descriptive ('scientific') analysis of

actual moral judgments. It should be a doctrine of logical method, having the same relation to impulse and purpose in the practical life as inductive logic has to conjecture in the theoretical. So likewise will it have its metaphysical implications.

7. **Kant's Antithesis of Criticism and Dogmatism.** By A. O. LOVEJOY.

The antithesis that Kant draws between two sharply contrasted types of philosophical method is commonly supposed to correspond to actual historic differences that are both definite and important. But the truth is that Kant's 'dogmatic' predecessors, Leibniz and Wolff, had an entirely explicit doctrine as to the nature and the scope of valid knowledge *a priori*; and their criterion for such knowledge was one of which Kant himself, though somewhat confusedly, admitted the legitimacy. That criterion was the principle of contradiction, which for them was not merely a principle of tautological judgments, but included all relations of necessary coherence between concepts—all judgments of which the opposite is inconceivable because it involves the combination of 'impossible' predicates. An examination of Kant's earlier and later writings shows that he nowhere explicitly rejects or invalidates this criterion—although, as a result of his confused and self-contradictory conception of the distinction between analytical and synthetical judgments, he failed to realize the full meaning and importance of the acceptance of such a criterion. Thus Kant's negative criticisms upon his predecessors bear effectively only upon their special arguments, not upon their general methodology; and between him and them there was no such great gulf fixed as he supposed.

Moreover, what Kant regarded as the most original and distinctive of his own special contentions—namely, his 'reply to Hume' upon the question of causality, expressed in the "Second Analogy of Experience"—conspicuously fails to exhibit an essential divergence of his doctrine from that of the so-called 'dogmatists.' For the negative part of it—the contention that judgments about causation are 'synthetical,' incapable of demonstration by any analysis of the direct implications of the concepts

involved, and hence not susceptible of apodictic proof — was as fully accepted by Leibniz as it was by Hume and Kant. And the positive part of Kant's theory of causality — *i. e.*, the curious piece of reasoning by which he attempts, after all, to establish the thesis of the Second Analogy, that "every event presupposes some antecedent event upon which it follows according to a rule" — is little more than the elaboration of an argument sketched out in Wolff's *Vernünfftige Gedanken von Gott, der Welt, und der Seele des Menschen, auch allen Dingen überhaupt*, over sixty years before the *Kritik der reinen Vernunft* was published.

A consideration of these facts should (1) somewhat qualify the prevailing estimate of Kant's originality; (2) put an end to the idea that there was, at Kant's time, a solution of continuity in the historic working out of metaphysical problems; and (3) make clear that Kant's general negative position with respect to the possibility of metaphysical knowledge was undermined by his own unmistakable, if somewhat ill-understood, acceptance of a rationalistic logic of concepts.

#### 8. The Platonic Doctrine of Immortality. By THOMAS M. JOHNSON.

Many absurd opinions about the Platonic doctrine of immortality are extant. To Plato have been attributed, utterly without warrant, the theories of monism, absorption of the soul into the Deity, and race immortality (which is a denial of immortality from the Platonic standpoint), and finally it has been asserted by some that he did not believe in the immortality of the soul at all. All these theories are totally alien to the Platonic conception of the nature of the soul. The constituent elements or essential characteristics of the rational soul are: unity, vitality, individuality, self-activity, self-consciousness, personal identity, immateriality, immortality. The soul is essentially immortal; its immortality does not date from its connection with the body. That the nature of the soul is eternal, is one of Plato's cardinal dogmas. (1) The soul is immortal, because it is incorporeal. There are two kinds of being — one composite, the other simple; the former

subject to change and dissolution, the latter immutable and permanent; one perceived by sense, the other apprehended by mind alone; the one is visible, the other invisible. When the soul employs the corporeal senses, it wanders, errs, and is confused; but when it separates itself from the body and acts *per se* or independently, it attains to knowledge which is permanent, immutable, and immortal. The soul, therefore, being uncompounded, incorporeal, and invisible, must be indissoluble or indestructible, *i. e.*, immortal. (2) The soul is immortal, because it has by virtue of its nature self-activity and self-determination. No matter or body can be conceived as the originator of movement or activity. That which cannot act from itself, but derives its activity from another, may cease to move and perish. But that which is self-moved never ceases to be active, and is also the cause of motion or activity in all other things which are moved. And whatever is perpetually active is immortal. This self-activity, says Plato, is the very essence and true notion of the soul. Being a cause, the soul is therefore a principle, and it is the nature of a principle to exclude its contrary. That which is essentially self-active and self-determined can never cease to be active; that which is the cause of activity and of change cannot be destroyed by the change called death. (3) The soul is immortal, because it possesses universal, necessary, and absolute ideas, which are essentially superior to the spheres of matter and sense, and participate in no respect in the corporeal or the corruptible. No form or species of matter, however subtle or refined it may be, can give the absolute, the necessary, the eternal. But the soul has the ideas of absolute beauty, goodness, perfection, and identity, to name only a few, and it has these by reason of its nature, which is one, simple, identical, and eternal. This is an argument of extraordinary strength and force to those who are able to grasp the essential distinction between ideas and sensations.

#### LIST OF MEMBERS.

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- Bagley, Mrs. Florence Winger, Dillon, Montana.  
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## DISCUSSIONS.

### THE PHYSICAL AND THE PSYCHICAL.

THE criticism which Miss Andrus has made of the point of view set forth in my various articles on the psychical and the physical merits a reply. She finds "four distinct and mutually incompatible positions" in my writings, and says that they grow out of "a fundamental ambiguity and shifting of meaning of the chief terms employed."<sup>1</sup>

This raises a question which has been present in the writer's mind from the first in his attempts to throw light on the problem—the question of terminology. It is not strange that the critic finds the problem approached from diverse points of view, since this was the deliberate intent of the writer. The issue concerns the alleged ambiguity and incompatibility of the terms used.

Professor Herrick has called the mind-matter problem "the Great Bad" in modern metaphysics, because of the unformulated assumptions and flagrant contradictions which lurk in the very language we are compelled to use, if we are to speak of the subject at all. Nothing has impressed the writer more forcibly from the beginning than the great difficulty of expressing one's self intelligibly in discussing the problem. It was his original intention to begin by showing up some of the inconsistencies of current theories on the subject; but this plan was abandoned on the principle that the best way to remove false theories is to erect true ones in their stead. Moreover, it was recognized that the only true method is that of immanent criticism which, in the case of the prevailing doctrine on the subject, is impossible because the error lies, not in the arguments used, but in the presuppositions involved in the terms themselves.

The matter is an exceedingly important one, and one calling for the greatest skill in logical and psychological, if not philological, analysis, in order to treat it adequately. The present writer cannot hope to do more than indicate the nature of the problem as it appears to him.

Before going further, however, it may be said here that all that is written in the articles criticized was intended seriously. It was not meant as a joke, nor written merely to make copy. The writer did his best at that time to express his serious beliefs. He is still open to

<sup>1</sup> PHILOSOPHICAL REVIEW, Vol. XIII, No. 4 (July), p. 429.

conviction. These remarks are made for the reassurance of the critic, who seems to be in doubt on the point.

A famous German philologist has said that language is but a dictionary of faded metaphors. Some are more obviously metaphorical than others, but words are, after all, in the last analysis, merely reduced acts. And just as our various modes of behavior become grafted one upon another, producing in habit a sort of composite photograph of all past reactions, so words, no matter how careful we may try to be, represent a sort of composite photograph, at once preserving and blurring the ideas of the past.

Nowhere is this clearer than in the case of all the terms used to describe our spiritual life, which terms have found their way into philosophy and psychology with all, or with most, of the ambiguities which they have in ordinary usage. Such terms as 'experience,' 'consciousness,' 'function,' 'tension' are illustrations.

What is "experience"? It is used in the articles by the present writer in the most general sense possible, as identical with the whole of reality. Whether this is a defensible use of the term is, of course, a question admitting of discussion. But it would seem that this is at least an intelligible use of the term.

Now, it is perfectly compatible with such a use, to describe experience as 'process,' as 'activity,' or even as 'energy,' though this last was not done without an explicit proviso. To be sure, this is to describe concrete experience in terms of an abstraction. But even to call experience "concrete" is to use an abstraction. One cannot *say* anything without using abstractions. It is the very nature of a proposition to abstract and hold in tension predicate and subject, while, at the same time and in that very act, they are being referred to each other. 'Activity,' 'process,' even 'experience' itself, in one sense, is an abstraction. If we are going to philosophize at all, we are compelled to operate with abstractions or partial aspects. But one abstraction may be more fundamental than another abstraction, and we may seek to show the morphology, as it were, of our abstractions, while recognizing that, in the end, so long as we are making any statements at all, they must remain abstractions and cannot *be* the full reality.

This is one of the difficulties which has doubtless baffled every writer in his attempt to express himself on a question of ultimate or philosophical significance — how to *state* something which in its full reality is essentially unstateable, how to express one's view of the matter when one is certain that the very fact of *stating* it, distorts and depletes it.

The same may be said of the term 'function,' which the critic declares to be used inconsistently. The term is defined by the writer as "orderly, continuous activity with reference to an end." The critic objects that this definition is "made from the biological standpoint," and objects to the application to experience at large of abstractions made from the point of view of special fields of inquiry like the different sciences.

But if philosophy is anything, it is the attempt to do just this: to interpret experience in general in terms of a synthesis of the abstractions of the special sciences. Each science itself represents only a special mode of experience. Each science represents an abstraction. Its significance for concrete experience, then, can only be got by bringing it into the common clearing-house of philosophy with other similar abstractions, where they may all be adjusted in some mutual synthesis.

The articles criticized are an attempt at such a synthesis. And if, as the critic finds, the term 'function' is used in three different senses in the articles, it seems that the author has at least been successful in bringing them together. Whether his particular view of the synthesis is adequate or not, is, of course, another question.

The critic has touched the nerve of the terminological difficulty in this criticism of the concept of 'function.' The author, in comparing the psychical and the physical to the complementary concepts of function and structure, speaks of the conscious acts as tensional and the unconscious acts as relatively equilibrated. A reconsideration of the passage, in the light of the criticism, has led the author to see that the matter is there stated in a misleading way. But the author still feels that the meaning is clear enough and is perfectly consistent with the other arguments presented. Conscious acts are tensional acts, *i. e.*, acts in which the psychical and the physical aspects come into opposition. Other acts, as is clearly enough stated in several places, are pre-conscious or pre-reflective; they belong to an immediate type of experience which is neither psychical nor physical, or may be said to be both. Instinct and habit are such immediate types of experience, and the fact that they at the present time figure equally in biological and in psychological discussions bears out the contention here made, that they are modes of experience in which are merged the phases which, in conscious life, are held apart.

Moreover, the author took distinct pains to avoid this possible interpretation of this very passage, by adding as a concluding remark, that "instead of saying that the psychical is the functioning of the

physical, it would be truer to say that the psychical and the physical are constituent and correlative functions within experience" (PHILOSOPHICAL REVIEW, XII, p. 301). On page 303, it is distinctly indicated that the application of the term 'physical' to this equilibrated state is a concession to ordinary usage. Again, it ought to have been clear from a reading of the discussion in the immediate context (on pp. 309 f.) that there was no intention of identifying reality with the physical or of identifying experience with the psychical (the two charges made by the critic). In this passage, the difference between consciousness and habit is distinctly referred to as the difference between a "tensional equilibrium" and a "relatively stable equilibrium." Here, obviously, the distinction between the two is one of degree of explicitness of the factors in tension. They could not be in equilibrium without at least the possibility of their being in tension, and, conversely, their being in tension is at the same time a state of relatively unstable equilibrium.

Nowhere does the author say, what the critic represents him as saying, that the "physical and psychical are distinct *modes of existence*" (italics not mine, p. 435). This is the exact position that the articles set out to combat. The critic seems to the author to have subordinated the statements which clearly set forth the main argument of the articles to certain minor passages which, it must be conceded, are open to the interpretation which she has put upon them, and which the author has taken this opportunity of setting right. One cannot say everything at once, and, in a controversy where it is so difficult to say anything intelligible at all and still use the terms of common speech, it is a source of gratification to the author that the errors detected have been in details rather than in any of the fundamental postulates.

Once more, consider the term 'tension,' which comes in for a good share of the "ambiguity," and thus of the criticism. The critic objects that, in one place, this term is significant only for the intelligence that makes it, and is thus methodological only, while in another place it is given ontological value. Here is a good illustration of the impossibility of escaping the thrall of the very conceptions one is trying to transcend. In defending a functional view of experience and of all its categories, one does not deny a validity to the ontological category; he simply tries to give it a defensible meaning. He shows that experience becomes conceived in terms of existence only when it is proving inadequate as a progressive activity. This is not to deny that the activity is existent; it denies only that it is existent in the static sense of the term.

In this sense it may be said (what the critic seems to object to the most) that reality is experience, existence is meaning, significance, utility. If I am going to predicate anything whatever of bare existence or of blank reality, whither can I go better than to experience for the predicates? To make the statement at all is, of course, in so far forth to put apart what are fully real only when together, but if this temporary putting apart is necessary to their really being together, it is difficult to see what else one could do.

To the objection that the relation of the psychical and the physical is represented in various ways, as the means-end relation, as the relation of existence to meaning, as the relation of structure to function, under the figure of the margin and focus of a visual field, what has already been said will perhaps be sufficient answer. But, as a possible further clarification, it might be added that it is nothing against the theory that all these various statements should prove to be true. Whatever may be the special difficulties involved in each conception (and the author does not wish to minimize these), they all equally show the functional character of the relation between the two factors involved, and this is the main contention of the articles. Structure and function, existence and meaning, means and ends, like the periphery and center of a dynamic system, have significance only in relation to one another. They appear and disappear together. They emerge within what, for want of a better term, we have described as a pre-reflective experience, which is no more (and no less) to be described in terms of one than in terms of the other of these two factors.

What this pre-reflective experience may be, we can only describe in terms of what it becomes in our reflective consciousness. And, on the scientific principle of continuity, we extend to the rest of the universe the psychological law of tension, which we find to be basal in the explanation of what we call reflective experience, just as we do with the corresponding laws of biology and physics. The only assumptions underlying the extension of the principle in this way are (1) the scientific principle of the unity and continuity of nature, and (2) the assumption that reality *is* only as it *is experienced*.

The first of these assumptions may be passed over here, as not being involved in the criticism of the articles. The second assumption is cleared of the charge of subjective idealism by the conception urged in the last of the articles mentioned (as also in another article by the writer in the *Elementary School Teacher* for February, 1904), in which, at some length, the view is defended that experience is not the mere private and limited possession of any finite individual, but a

universal medium, as Professor MacLennan puts it, of which or in which the individual consciousness is but a center of transformation.

The author is grateful for the criticism of details, and will profit by some of the strictures made. But his chief interest is in the validity of the method which is at stake. And none of these criticisms touch the main thesis of the point of view in question, viz., the emphasis upon the functional character of all the categories of experience. Whether this is materialism or idealism, will not matter much to those who are aware of the existing ambiguity of these terms. The important point is: Is it true?

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### PROFESSOR BAKEWELL ON THE EGO.

THE question of the nature of the ego, on which the controversy between Professor Bakewell and myself in the last number of this journal turns, is so fundamental, and my sense of the desirability of arguing these questions out, where they can be argued out, is so strong, that I venture to return to the charge and to discuss Professor Bakewell's "Rejoinder" to my "Reply."

I remark, to begin with, that a conception of the ego which is "adequate for the needs of the science of psychology," but which "will not bear the strain of metaphysics," seems to me a very equivocal kind of thing. I prefer to believe that what is true in psychology will "bear the strain" of any metaphysical conclusions that can be logically deduced from it.

Now the ego, it will be admitted, is primarily a fact of psychology. It does not follow, of course, that Professor James's account of it as the "passing thought" is the correct account. Nevertheless, I personally believe this to be the fact. It seems to me that Professor James's positive discussion of the matter, and Mr. Bradley's destructive criticism of the opposing view of Professor Ward, place almost beyond doubt the validity of a theory which is simply the application to the ego of the experientialist method of modern psychology.

Nor can I admit that the difficulty of stating this theory in words which shall not seem to contradict it is a reason for suspecting its adequacy, if the contradiction can be easily rectified and can be shown to be the result of our inveterate tendency to describe our experience, not as it is in itself, but from the point of view of later reflection. When Professor Bakewell spoke of the subject as "intuiting" or "witnessing" states of consciousness, he used expressions which contradict the theory, because "intuiting" and "witnessing"

imply the separate reality of that which sees and that which is seen — imply, in other words, what I have called the “eye theory” of the mind. I shall not attempt to deny that he has caught me in verbal contradictions, which, if not quite so glaring as this, are at least not wholly dissimilar to it. I confess them the more willingly, since I believe that a frank discussion of them will only place in a clearer light the essential correctness of the theory.

Quoting my remark, that those who believe in a non-empirical ego “think that anything of which we can be aware, not merely in the sense of knowing, but in the sense of immediate feeling, requires a subject to be aware of it,” Professor Bakewell asks: “Why bring in that ‘we’?” And on my next sentence, “Thus they make the subject a thing of which we cannot be in any sense aware,” he makes the comment, “As if, on his own theory, *we* could.” My first impulse, on reading this comment, was to exclaim: “But of course we can; my theory is precisely that the subject is a thing of which we can be aware.” And it seemed to me that by the remark first quoted I meant that immediate feeling does not require a subject *distinct from itself*.

But, on further reflection, I saw both that this was not what I had *said*, since I had affirmed quite distinctly that experience or immediate feeling does not require a subject at all, and that it is open to doubt whether the notion of immediate feeling being its own subject is one which is capable of being thought out clearly. It may be questioned whether there is any meaning in saying that immediate feeling feels itself. On the other hand, nothing can be truer than that feeling is felt.<sup>1</sup> Take pleasure, for example: the pleasure does not feel the pleasure, but the pleasure is felt. I incline, therefore, to think that the relation of subject and object is not applicable to immediate feeling, and that the expression, “We are aware of ourselves as subjects,” cannot be defended as a description of the subject as it originally exists. The subject exists none the less as immediate feeling (and not as an unknowable thing-in-itself or psychic atom); but it has no retroactive, self-appropriative relation to itself that could justify us in speaking of it as aware of itself. It is rather awareness pure and simple—awareness of a definite, qualitatively determinate kind. And the content or quality of the awareness is as little separate from, and the object of, the awareness as the awareness is the subject of the content or quality.

Professor Bakewell’s criticism, then, is, from this point of view, per-

<sup>1</sup> Or does this passive form connote the point of view of later reflection? See further on.

fectly justified. I do not express the theory in terms which are literally exact. The literal statement of the theory would be that the subject, or *we*, is something of which there is awareness, though the awareness is not a property or attribute of the subject or *we*. The "fresh experience" (*i. e.*, immediate feeling) is the *we*; this *we* is not the subject of an awareness; it is the awareness itself, which needs no separate subject. Professor Bakewell is therefore perfectly right in adding that, on my theory, we should in strictness of speech say, "There is simple self-awareness," meaning by this "awareness of its own quality."

But why, if the foregoing is correct, do we so persistently attribute our feelings to a self? If immediate feeling does not require a subject, if it exists merely as unappropriated awareness, whence our tendency nevertheless to ascribe it to a subject, to say that 'we feel,' 'have a feeling,' 'are aware of a feeling'? The tendency is due to the fact that a feeling which existed at one moment as unappropriated awareness may, at the next moment, become the *object* of the awareness of a reflective state which itself exists in an unappropriated way, and is the new *we* ("the fresh experience as it comes"). It is, as Professor James says, "this trick which the nascent thought has of immediately taking up the expiring thought and 'adopting' it," *i. e.*, becoming cognitive of it, which is at the bottom of our ascription of our states of consciousness to a subject. Many have been the subjects which in the course of our history have constituted our awareness of other things. But the only ones among them that have entered the field of our vision as psychologists are subjects which have happened to become the objects of later states. Hence our inveterate tendency to conceive them as "something of which we are aware." We (the present *we*) were not aware of them at the moment, nor were they aware of themselves as subjects or as pertaining to subjects; they existed solely as awareness — the original stuff of which all mental facts, up to the most complex and knowing, are composed. Never has a mental fact existed which in itself considered was anything more than awareness — awareness of a certain definite, concrete kind — and this is as true of the subject or ego as it is of any other mental fact.

The third passage of mine which Professor Bakewell quotes will now be intelligible: "The ego is the fresh experience as it comes, before we have had time to turn round upon it cognitively, and while we — that is, it — are still engaged in cognizing other things." Here the identification of "we" and "it" should cause no trouble; it simply expresses the main tenet of the theory that what we mean by



*we* is the present state of consciousness. I call the latter sometimes "we" and sometimes "it," because "we" is more appropriate to it in its character of subject, "it" in its character of state of consciousness or object of psychological thought. It is more important to notice that the meaning of "we" changes in the course of the sentence. The first "we" is the reflective state which cognizes the ego, the second "we" is the ego itself as cognizing other things. But this, I think, is ordinary usage, and the sentence quite unexceptionable if correctly understood.

It might, however, be contended that this catholic use of the "we" implies the recognition of a "deeper unity" or identity binding together the different phases of the stream of consciousness, and that it is therefore *not* true that "what we mean by *we* is the present state of consciousness." I cannot, of course, agree to this: I regard the usage as simply a manner of speaking, nor would it occur to me to expect, on the empirical theory, a different pronoun for each successive phase of the stream of consciousness. I cannot discuss here the general question of the nature of personal identity, but I may say that, in my opinion, the plain man never meant by personal identity the abstract and mathematical identity of an ego not given in experience, but only the continuity of the stream of consciousness and the relations of resemblance and cognition between its later and its earlier phases which experience actually reveals. The abstract and mathematical identity is an invention of the philosophers, and Professor Bakewell is not to be congratulated on lending his countenance to it so long after the fallacy of the notion was exposed by Hume. I must correct a misunderstanding of Professor Bakewell's in this connection. I said that an absolute identity could only be "feigned," and added that the notion of identity cannot be used to explain the facts of memory, because it is "in reality only a restatement of them." To this Professor Bakewell replies: "If a restatement of the facts, it is not a feigned identity." No; it is not a feigned identity if you mean by 'identity' the relations of continuity, resemblance, and cognition above referred to. But if you mean something more than this, something that would explain (or assist in the explanation of) memory, if in short you mean a real identity, then it *is* a "feigned identity" — that is, one for which there is no warrant in the facts. And, if my suggestion be true that the whole notion of such an identity is simply a sublimation or inexact version of the relations of continuity, resemblance, and cognition which experience reveals, then it appears quite plainly that the conception of such an explanation of memory

is a pseudo-scientific one, after the type of the principle: 'Nature abhors a vacuum.'

That the transcendence involved in memory does not require the theory of a non-empirical ego, appears further from the fact that in our knowledge of other minds we have a transcendence which cannot be explained in this way. The other mind and mine are, even on Professor Bakewell's theory, not merely phenomenally but really distinct from each other. He would apparently distinguish kinds and degrees of transcendence; in memory we transcend the phenomenal self, not the real self; in the knowledge of other minds "there is a kind of transcendence even of the real self," but "the transcendence is not complete and absolute . . ." It seems to me that this is playing fast and loose with identity and difference. I know of but one kind of transcendence, and that is exemplified whenever the object known is a reality distinct from the state that knows it. Nor can the fact of this mutual separateness of mind and mind be mitigated by asserting that they are not "wholly cut off from real communion with, real relations to," each other — "relations that are discovered by reason and experience." That we have any immediate experience of other minds or of our relations to them, is a proposition manifestly contrary to fact. I called upon Professor Bakewell to specify the reasons which, in the absence of immediate experience, justify us in assuming them. The only thing in his "Rejoinder" that looks like a response to this invitation is the statement that "the isolated ego is a sheer abstraction. . . . The very private self always sets part, at least, of its meaning in terms of other minds." This statement obviously confuses our *conception* of self, of which it is true that it always includes some conception of our relation to other minds, with the *immediate experience that constitutes the self*, of which it is not true that it ever includes any immediate experience of other minds. The latter is alone in question in my controversy with Professor Bakewell.

Finally, I must protest against the charge of discontinuity which Professor Bakewell brings against my theory, and particularly against his description of it as an "atomistic pluralism." Pluralism it is—that is, I conceive the distinguishable parts of the world to be distinct as to their reality—but I assume no atomistic discreteness; one phase of the stream of consciousness merges into another, and the separate streams are continuous through the medium of the things-in-themselves that divide them. The psychical world, in short, is as little discreet as the physical. Discontinuity is Professor Bakewell's gloss upon my view, not my own characterization of it. And the contradiction he

finds between the 'momentary and fleeting' character of all things mental and the "continuity and permanence" which I attribute to things-in-themselves, and therefore to minds, is the result of a misunderstanding. The "continuity" I mean is exemplified by the continuity of the stream of consciousness; the "permanence" is a relative permanence, due to the continued repetition of a process, and paralleled (in the case of the minds) by the continued repetition of the brain-process.

I do not wholly disagree with Professor Bakewell's remark that "when we reach the end of the [my] book we are just ready to begin the study of the real problem." This is in so far true, that the problem of the relation of mind and body leads up to that of the nature of consciousness, and requires a treatment of this last for its full elucidation. But I said as much in my closing lines, and held out the prospect of a later work dealing with the nature of consciousness. As regards the problem of the relation of mind and body, of course I cannot admit that "the way is barred by his [my] conception of the ego"; what would rather, in my opinion, effectually bar the way would be the (as I think) unwarranted and unscientific conception of a non-empirical ego which Professor Bakewell recommends. He says that "the puzzle of the relation of mind and body returns in the form: How can I influence perception in another consciousness?" This question is not free from ambiguity. In one sense, I have already answered it by saying that the two minds are parts of a continuous world, and act on each other through the medium of the things-in-themselves that separate them, in the same way in which the two brain-processes act on each other through the medium of intervening matter. But presumably Professor Bakewell would return with the question: How do the minds act on things-in-themselves, and how do these act on the minds? How, in short, does one thing ever act on another?

I confess I can neither offer nor conceive an answer to this question. Whatever other metaphysical ambitions I may entertain, I do not, in my most sanguine moments, look forward to a time when I shall be able to get beneath the separateness of minds and of things-in-themselves, and explain how influence passes about among them. I consider that the utmost we can do is to ascertain the order in which it does actually pass about, and that, when we have done this, we have formulated an ultimate fact which neither science nor metaphysics will ever succeed in getting beneath or explaining. Least of all does it seem to me that the explanation of action by means of "underlying

unities" sheds any light on the matter. Such "unities" are in truth only a hypostatization of the facts, and must, therefore, fail in the occasionalist office they are called in to perform. I think an instructive analogy might be drawn between the method of explanation in metaphysics which consists in submerging phenomenally separate things in "underlying unities," and the employment of non-phenomenal principles of explanation in physical science.

But if the very conception of an explanation of action is a mistaken one, then I have already done all I could reasonably be expected to do in reducing the connection of mind and body to an action of one mind on another through the medium of things-in-themselves. This reduction explains the connection in its main outlines. That it explains all its details, *e. g.*, the relation of consciousness to the molecular structure of the cortex, I have never thought of maintaining.

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#### PROFESSOR STRONG ON THE PASSING THOUGHT.

BEFORE reverting to the central issue in the discussion between Professor Strong and myself, I should like to enter a protest, in all courtesy, against being clubbed with the names of the mighty. *Philosophus dixit* is hardly more admissible as an argumentative instrument when Hume, or James — or even "the plain man" — is made to play the rôle of *philosophus* than it was in mediæval times, when that part was assigned to Aristotle. It is always a double-edged instrument. For example, many are the reverend names one might invoke of philosophers who have committed the unpardonable sin of regarding Hume's account of "identity" as incomplete.

That the ego is "primarily a fact of psychology," is true in the same sense in which it might be averred that matter is primarily a fact of physics and chemistry, and in no other. But every special science, psychology not excepted, deals with experience, or with groups of facts within experience, from a deliberately selected, and in so far partial, point of view. It thereby gains in definiteness and precision, but at the cost of remaining cut off from the world of experience in all the fulness of its concrete reality. To get back to this world, these partial points of view must be correlated, the synoptic view of the several sciences must be discovered by the more inclusive science, that is, by metaphysics. Now nothing is more obvious than that a conception may work well, and be thoroughly adequate for the needs of a special science, which none the less fails to reach the root of the matter, and remains incomplete and inadequate when we pass on to the more com-

prehensive science. Thus, for example, as Professor Strong has shown in his book, modern scientific conceptions of matter are far enough removed from the ordinary conception of the unscientific man. Yet the latter suffices, at least quite as well as the former, for the plain needs of every-day life — for buying and selling, sowing and reaping, and leading the life of the good citizen. Again, the metaphysical conception of matter which he develops is equally remote from that of the scientist. And yet I suppose Professor Strong would hardly think of maintaining that, for the development of natural science, the physicist, for example, should accept his conception of matter as “phenomena which are symbols of things-in-themselves,” which latter are to be conceived after the analogy of consciousness. And so it is legitimate to separate the question as to the metaphysical sufficiency of the conception of the ego as the passing thought, from that of its adequacy for the needs of the science of psychology, precisely as is done by the father of the theory in question. That theory, he holds, is at all events adequate for “expressing the subjective phenomena of consciousness as they appear,” but he explicitly waives the question as to its sufficiency for other and more metaphysical demands.<sup>1</sup> Therefore, until Professor James himself faces the problem which in his psychology he expressly waives, I deem it not pertinent to draw him into the discussion, or to make him sponsor for Professor Strong’s metaphysics. I for one am looking forward with keen anticipation to the metaphysics of Professor James’s forthcoming book, and I expect it to be quite different from that which we are considering, for there are not wanting in his recent utterances evidences of dissatisfaction with a certain absolutism that has crept into the very camp of the ‘flowing philosophers.’

The sole question now before us, as I conceive the matter, relates to the consistency, adequacy, and intelligibility of Professor Strong’s metaphysical use of the ‘passing thought’ theory of the ego, — of his conception that the true nature of the ego is sufficiently described as the passing thought; that, as such, it is real, and is in fact our only type of reality. My excuse for continuing the discussion is that his lucidity of statement, and his frank endeavor to stand by his guns, only make it the clearer that his view, when made consistent and freed from ambiguity, reveals its own limitations. I have not attempted, and shall not attempt, to develop a rival theory of the ego — which, indeed, in the brief space allowed me by the editor of this journal would be out of the question — and the most that could be said is

<sup>1</sup> James, *Psychology*, I, p. 344; cf. p. 401 *et passim*.

that my criticisms indicate the direction in which I believe one must look for the complementary aspect of the situation which Professor Strong ignores.

The two most striking features of Professor Strong's view of the self are (1) his attempt consistently to hold to the view that the nature of the ego is to be read in terms of sheer immediacy, and his consequent reduction of the passing thought to the passing feeling; and (2) his doctrine that the ego thus regarded is reality, our only sample of it, and the only type of reality we can conceive of.

With regard to the first point, my contention is that it is difficult, if not altogether impossible, to state the view without using terms which contradict it. Professor Strong admits the difficulty and offers an explanation which is a simple evasion. It is due, he writes, to "our inveterate tendency to describe our experience, not as it is in itself, but from the point of view of later reflection." But why should the tendency be so inveterate and so obstinate that, even when specially on one's guard, one is unable to free one's self from its influence and to describe "our experience" "as it is in itself"? Furthermore, in so far as one approximates success in avoiding the contradiction the conception is depleted of meaning. Could one succeed perfectly, the ego would be utterly unknowable, and we should have for our one sample of reality simply the mystic's ineffable experience.

With regard to the second point referred to above, I would point out that the pulse of feeling to which the ego is reduced is not experience but only an abstract phase of experience, and just that phase which, by itself considered, is most unreal.

Moreover, could we conceive the world of reality as made up of such egos, we should have as a result a most hopelessly puzzling ontological atomism, inasmuch as each of these reals is, by hypothesis, at any given moment absolutely sundered from all other reals existing at the same time, and all of the reals existing at any moment are absolutely sundered from reals that went before or are to come after in time. For Professor Strong has told us that reason and experience give but the single isolated ego. It fades and ceases to be, though another ego may appear as its heir, so to speak, and in some mysterious way possess its life in memory. Imagination, under the lead of instinct, may people the world with many such egos, and interpolate many lesser egos called things-in-themselves. But each one, so far as reason and experience are concerned, is shut in its separate sphere. The world of reality thus is granular in structure, and the granules are ephemeral, and between them instinct alone is the bridge. Professor

Strong resents the charge of atomism. He believes that "influence passes about" among minds and things in themselves. He would escape the discreteness in time by resorting to the metaphor of "the stream of consciousness," and he believes that "the separate streams are continuous through the medium of things in themselves that divide them." I never meant to deny that Professor Strong holds such a belief, and I have called special attention to this fact in my review of his book. By means of instinct, and with the aid of metaphors, the notion of continuity is recovered. I am, however, chiefly concerned with testing the conception of the ego and of reality which he gets through reliance upon reason and experience. This conception must be kept apart, and examined by itself, if we are ever to discover whether or no it is the one to which reason limits us, and which experience bears out. This conception it is that gives Professor Strong's real world its atomic appearance, and seems to make the continuity and interaction which he would by other means discover unintelligible. But Professor Strong will reply that he is not called upon to explain how ego-realities act upon one another. Sufficient to show that they do, and the order in which they do so. And yet, if he is right in his account of the ego, we cannot, so long as we confine ourselves to the testimony of reason and experience, be sure that they do act on each other. Moreover, the *that* and the *how* cannot be thus easily sundered. We never can be sure that we have precisely the *that* of any situation until we are able to reënforce the *that* through an exhibition of the *how*. And, on scientific principles, we are certainly debarred from so conceiving of the realities related as to make the *how* of their relations an ultimate mystery.

The history of natural science is full of instructive instances in this connection. How often has it happened that the explanation of relations between physical occurrences has been made impossible because of an initial misconception of the true nature of the things related! If a scientist feels hopelessly baffled in exhibiting the *how*, that is, in discovering and making intelligible the real continuity of experience, he is likely to set about to revise the conception of *his* ultimate realities. And one thing at least is now obvious with regard to the physical order, and that is that the isolated item, whether thing, or atom, or force, or what not, is in nature nowhere found. Such an item is a pure abstraction, however convenient it may be for certain purposes to make such abstractions. And if we were really to conceive of the unity and continuity of the world of mental realities after the analogy of the physical world, as Professor Strong professes to do, it would

seem as if the first thing that we should have to do would be to regard the isolated ego, the "unappropriated awareness," as an abstraction. Moreover, that it is such, appears evident when one attempts to clear the conception of other connotations, as Professor Strong does.

The real — the "ego," "subject," or "we" — is described by him as "experience," as "immediate feeling," as "awareness pure and simple," as "something of which there is awareness,"<sup>1</sup> as "unappropriated awareness," as the "fresh experience," and as "awareness of a definite qualitatively determinate kind." This immediate feeling "does not require a subject;" in fact, the relation of subject and object is inapplicable to it, and in it is experienced "the original stuff of which all mental facts are composed."

Now I am far from denying that the conception of immediacy, of simple awareness, is legitimate and can be made perfectly definite. Otherwise, we should not be able to frame any clear idea of feeling. What I do deny is that this conception can be regarded as an adequate transcript of *any* actual experience. It describes a phase of experience merely, which can be separated from other correlative phases in the same way that the form of things can be viewed apart from their matter. But I should as soon expect to see a disembodied triangle running a race down Beacon street with a disembodied pentagon as to stumble across, in actual experience, an unappropriated awareness in all its unblushing nakedness. If such experiences are ever real they must happen in dreamless sleep. And, in fact, that one of the most significant and most definitive advances made by modern psychology, one to which Professor James has contributed perhaps more than any other writer, lies precisely in the establishment of the truth that pure cognition, pure feeling, pure will, are abstractions, and that in every concrete experience these three phases are inextricably conjoined.

But to return to Professor Strong's statement of the case. The "immediate awareness that constitutes the self" is first of all somehow given, is the initial experience that later is "transcended." Otherwise the transcendence would itself be given in experience, which he will not allow. Still this ego-experience is, on his showing, not the entire experience of any given moment, but only a portion of it: that portion, namely, which "is engaged in cognizing other

<sup>1</sup>Is not this introducing the contradiction again? The more consistent interpretation of "there is simple self-awareness," of which the phrase in the text seems intended as an expansion, would rather be had by changing the hyphen to a vinculum, and letting the concepts merge in one another: "there is self that *is* awareness, and awareness that *is* self."



things." This cognizing of other things, however, as he has shown, involves transcendence of immediacy. If, therefore, we are ever to find a sample of the "original stuff" of "awareness pure and simple," we should eliminate this cognizing of other things. The "first experience" should be wholly absorbed in a blind stare at vacuity — not even defined as such. The truth is, however, that a part of the life of every feeling, inseparable from it except by abstraction, is this reference to a specific group of "other things." Without this, the feeling would lose its definiteness, and inasmuch as this admittedly involves transcendence, that transcendence is an inseparable part of the definite feeling. Moreover, if we are to maintain, as Professor Strong does, that this initial feeling-stuff is "awareness of a definite, qualitatively determinate kind," is it not clear that in still another way that very awareness involves its own transcendence? It can only be experienced as definite and qualitatively determinate in so far as it is actually experienced in contrast with that by means of which it is rendered definite and determinate. The truth is that in conceiving it as thus definite we are already occupying "the standpoint of later reflection"; that is, the awareness has been "appropriated." If an ego-experience were conceivable in terms of sheer immediacy, and if that were succeeded by another ego-experience similarly immediate, and if these were not held simultaneously in view and contrasted, could it be said that either of them was experienced as definite? But Professor Strong will probably reply that I am confusing the "conception of self" with the "experience that constitutes the self." Not so. I am merely pointing out that a feeling which can even be said to be experienced as definite involves thought distinctions which transcend the immediacy of experience, that that very contrast which Professor Strong draws is merely a logical and methodological device, precisely analogous to the contrast between the *that* and the *what* of things, and possibly a useful device provided one is not misled by it into fancying that experience countenances any real sunderment. And so I conclude that it is not true that we are conducted by reason and experience to reality in the guise of an isolated ego-feeling, an unappropriated awareness, beyond which instinct then carries us, but, rather, that in the simplest experience, make it approximate as far as possible the immediacy of feeling, if it be anything definite at all, *as experienced*, we are already beyond simple awareness.

Professor Strong admits that there is another and a more "catholic" use of the *we* than that which is employed when the ego is

viewed as the passing feeling, but he lightly dismisses it as "simply a manner of speaking," and adds: "It would not occur to me to expect, on the empirical theory, a different pronoun for each successive phase of the stream of consciousness." Perhaps not; but this catholic *we* is not simply one of the successive phases of the stream. Its peculiar meaning is given in the fact that it is thought as transcending the successive phases and being continuously present throughout the succession. So Professor Strong writes: "Many have been the subjects [egos] which in the course of *our* history have mediated *our* awareness of other things. But the only ones among them that have entered the field of our vision as psychologists are subjects which have happened to become objects of later states." (Italics mine.) That *our* is the inevitable reappearance of the catholic *we*, and it would certainly seem as if we might fairly expect, above all from one who prides himself on his empiricism, some more serious explanation of such an inveterate tendency.

And, in passing, I would remark, that although Professor Strong affirms that he knows but one kind of transcendence, it would seem to me that, on the basis of empiricism, one must admit that a very significant mark of difference characterizes that transcendence which is involved in passing to other states of consciousness which we can and do call *ours*, which clearly marks it off from the kind of transcendence that is involved in passing to other selves that we never think of appropriating in the same way as 'ours.' And when Professor Strong writes, "That the transcendence involved in memory does not require the theory of the non-empirical ego, appears further from the fact that, in our knowledge of other minds, we have a transcendence which cannot be explained in this way," the conclusion is irrelevant.

In speaking of personal identity, Professor Strong remarks that, in his opinion, "the plain man never meant by personal identity the abstract and mathematical identity of an ego not given in experience, but only the continuity of the stream of consciousness and the relations of resemblance and cognition between its later and its earlier phases which experience actually reveals." And he goes on to say that "the abstract and mathematical identity is an invention of the philosophers," and to score me for giving it countenance. As for the plain man, I rather think that he would require a good deal of coaching before he could grasp the notion that Professor Strong credits him with. And judging from my own acquaintance with him, I should say that the plain man, in his unreflective purblindness, does come about as near

as one can to an abstract and mathematical conception of identity.<sup>1</sup> And the history of the development of human thought, as this is revealed in language and in moral codes, as well as in the history of philosophy proper, seems to point to the same conclusion. But as for my own view, I certainly am very far from believing in a merely "abstract and mathematical" identity of the ego; nor have I written anything to warrant the charge, unless, indeed, Professor Strong proceeds on the assumption that that view and his own view of the ego as the passing feeling exhaust the possible alternatives. Were one confronted with just this pair of alternatives, it would be hard to choose between them, but I am inclined to think that what Professor Strong calls the "abstract and mathematical" identity-theory would be found nearer the truth, and even less abstract, than that which would describe the ego as the passing feeling.

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<sup>1</sup>So Professor James, *Psychology*, I, p. 343: "The theory of the soul is the theory of popular philosophy and of scholasticism, which is only popular philosophy made systematic," etc.

## REVIEWS OF BOOKS.

*Man's Place in the Universe.* By ALFRED RUSSELL WALLACE.  
New York, McClure, Phillips & Co., 1904. — pp. viii, 320.

The problem which the author undertakes to investigate is whether or not the logical inferences to be drawn from the various results of modern science lend support to the view that our earth is the only inhabited planet, not only in the solar system, but in the whole stellar universe. A thoroughgoing review of such a book should be undertaken only by an astronomer who possesses a first hand knowledge of the facts which form the ground of the many inferences of which Mr. Wallace's long and careful argument consists. It is possible, however, in viewing the subject from the standpoint of a layman, to judge as to whether or not the conclusions are justified by the premises, supposing of course that the premises rest upon undisputed facts. Therefore, without challenging Mr. Wallace's alleged facts and generalizations, it is a matter of considerable interest to inquire as to their bearing upon his ultimate conclusion that our earth is the only inhabitable planet within the vast stretches of the universe.

The argument is based upon the following considerations, which can be outlined here only in a very brief and general manner, — merely a rough sketch of the chief points of his position. The universe presents a unity of structure and arrangement. The stars are not infinite in number and extent, but fall within a single system. The earth occupies a central position within the stellar universe, whose outer bounds are marked by the enclosing circle of the Milky Way. Within the sweep of the solar cluster near the center of this vast system, all planetary motions are less rapid and more controlled, and therefore there is less danger of catastrophic collision, and greater stability of conditions is possible. Were the solar system nearer or within the bounding circle of the Milky Way, confusion and instability would prove wholly inimical to the evolution of organic forms of life, which require stable conditions continuing throughout unthinkable æons of time. Moreover, throughout the entire universe there is evidence of a mechanical, physical, and chemical uniformity. All living organisms such as appear upon the earth result from exceedingly complex combinations, adaptations, and adjustments within the scope of the well-known and recognized laws of nature. The conditions essential to life are solar light and heat, an adequate distribution of water upon

the earth's surface and in its atmosphere, alternations of day and night, an equable temperature, a sufficient density of the atmosphere to retain the gases which are necessary to the support of life. In order to maintain these terrestrial conditions, the following astronomical conditions must obtain: The proper distance of earth from the sun, the mass of the planet falling within certain defined limits, the obliquity of the ecliptic, the amount of water as compared with land, the surface distribution of land and water, the permanence of this distribution, dependent probably on the unique origin of our moon *i. e.*, its being a detached portion of the earth leaving behind suitable ocean basins, an atmosphere of sufficient density and composed of suitable gases, an adequate amount of dust in the atmosphere, and atmospheric electricity. Finally, none of the other planets of the solar system combine all these complex conditions, which, upon the earth, work harmoniously to the production and the support of life; therefore, it is reasonable to suppose the other planets to be uninhabited; and moreover, the probabilities are almost as great against any other sun possessing inhabited planets. Such being the line of argument, it will be readily seen that the force of Mr. Wallace's contention depends upon the exceedingly great complexity of living organisms, and the nice balancing of conditions which it is necessary to maintain in order to produce and preserve such organisms on any planet, and the improbability that such correlated conditions exist anywhere in the universe except upon our earth. It may be well, perhaps, to have before us Mr. Wallace's position as expressed in his own words: "The combinations of causes which lead to this result [the presence of living organisms] are so varied, and in several cases dependent on such exceptional peculiarities of physical constitution that it seems in the highest degree improbable that they can *all* be found again combined either in the solar system or even in the stellar universe" (p. 310).

This method of reasoning from known conditions which produce known results to the conclusion that the absence of these conditions renders the same or similar results impossible, must be regarded as possessing cogency only when extended to adjacent cases. As regards the cases which are necessarily so far removed from the sphere of direct observation, the unknown so far overbalances the known that the inference as to what must be considered impossible is exceedingly precarious. What seems to be impossible in a setting which is completely within the compass of our knowledge, may be quite possible in a setting which transcends our knowledge. No one has

brought out more clearly than has Mr. Wallace in this work the indefinite variety and unknown possibilities of the forces of nature. Under changed conditions, without violating at all the general uniformity of nature, other forms of organisms may be evolved which the limited conditions prevailing upon the earth will not allow, and which our limited experience can not even conceive. We have been reminded very forcibly of late that new discoveries produce many revolutionary movements within the general body of received opinions. How tremendously have the Roentgen rays and the radio-activity of radium changed our views as to the possibilities of physical forces. Moreover, as regards the stellar motions, it was held to be a matter of most obvious certainty that they were to be accounted for solely by the laws of gravitation. This position, however, has been recently questioned. The following, which Mr. Wallace has quoted in the work before us, bears testimony to a radical shifting of fundamental considerations: "I doubt whether the principal phenomena of the stellar universe are consequences of the law of gravitation at all. I have been working myself at spiral nebulae, and have got a first approximation to an explanation — but it is electro-dynamical and not gravitational. In fact, it may be questioned whether, for bodies of such tremendous extent as the Milky Way or nebulae, the effect which we call gravitation is given by Newton's law; just as the ordinary formulæ of electrostatic attraction break down when we consider charges moving with very great velocities" (p. 292). This statement is taken from a letter of Mr. E. T. Whittaker, Secretary to the Royal Astronomical Society, written in reply to certain questions which had been sent out by Mr. Wallace to various men of science. Now, inasmuch as such changes in the fundamental conception of the constitution of matter and the nature of physical forces have taken place, and are taking place, is it not reasonable to insist that the possibilities of unknown conditions which may obtain in unknown regions are wholly incalculable? It is extremely hazardous to state any exact limits which even present known conditions may be regarded as necessitating. The possibility of variation, of new developments, of the manifestation of newly discovered properties in connection with phenomena of exceedingly great complexity must be reckoned with.

Moreover, essential conditions so regarded might prove to be unessential, or at least capable of radical modification, if only the horizon of knowledge were lifted somewhat. And even in the world of science at present, there is much difference of opinion as to what are to

be regarded as essential conditions in reference to certain phenomena. Take, for instance, the question as to the age of the earth upon which we live. The geologist tells us that at least two hundred millions of years are required; the physicist, on the other hand, tells us that the life of the sun cannot be stretched to nearly that number of years. Lord Kelvin says: "It would, I think, be exceedingly rash to assume as probable anything more than twenty million years of the sun's light in the past history of the earth, or to reckon more than five or six million years of sunlight for time to come."<sup>1</sup>

Such radical difference of opinion naturally gives us pause when we undertake to state just what can and cannot come to pass in regions and ages which lie wholly beyond our ken. If we cannot easily interpret the past when we have the data before our eyes, how can we expect to interpret the future or the far remote when we are precluded from knowing so vast an amount of the data.

Mr. Wallace no doubt would take exception to our strictures upon his argument on the ground that the progress of science has been so uniform and so comprehensive as to determine quite definitely the essential conditions which must be fulfilled in order that living organisms should be produced and preserved. In the marvelous advance of knowledge, however, we have as yet before us great and undiscovered countries whose outskirts we have not commenced to penetrate. What is known of the potential properties of matter, and the forces of nature whose operations are still undisclosed? Is our scientific knowledge such as to set a necessary limit to the nature and scope of such forces, should they be discovered? We think not. The difficulty of interpreting comprehensively any known conditions, even of the simplest nature, should deter us from too dogmatic conclusions concerning hypothetical relations under unknown conditions.

Moreover, it is quite impossible for us to know certainly that mind manifests itself only through the medium of brain structure central to a highly developed living organism. There may be other forms which intelligible beings assume in the outer confines of the universe. This is, of course, merely conjectural; nevertheless, the mere possibility of unknown forms, through whose media thought may find expression, should cause us to hesitate in our inferences as to what does, and what does not, transcend the sphere of the possible, or even of the probable.

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<sup>1</sup>Quoted by Wallace, p. 275.

*Grundriss der Religionsphilosophie.* Von A. DORNER. Leipzig, Verlag der Dürr'schen Buchhandlung, 1903. — pp. xviii, 448.

This book may be commended to those who have fancied that the day was past when vigorous speculative thinking could be reckoned among the products of Germany. Dr. Dorner is a metaphysician in the full sense of the word—the sense in which it could be applied to a Fichte or a Schopenhauer, and he is quite ready to give a reason for the philosophic faith that is in him. His work is comprehensive and thorough, and while some readers may think that he has not entirely overcome all the difficulties in his path, they will hardly be able to complain that he has failed to confront and grapple with them.

In Dr. Dorner's view, a philosophy of religion must be based upon a metaphysic, and this, in turn, implies an idealistic and in some sort a monistic conception of reality. Religion itself originates in, and is conditioned by, the impulse of the human reason to transcend the dualism of the phenomenal world, through its recognition of that divine unity by which all reality is embraced in one harmonious whole. In discussing the phenomenology of the religious consciousness, he shows how the manifold forms which religion takes on correspond to the stages of the ever-evolving process by which the spirit grows to fuller power and more perfect freedom. In tracing the steps of this development from the crudest fetishism up to the "absolute religion" of an ideal Christianity, Dr. Dorner follows pretty closely in the footsteps of Hegel, to whom, indeed, his whole system evidently owes much. But his exposition has for the student many points of advantage over that of his great predecessor. The advance during the last three quarters of a century in the science of comparative religions and in the fields of investigation nearly related to it, has provided the observer of religious phenomena with a vast mass of material and has made possible its due correlation, and Dr. Dorner has the power of seizing upon and exhibiting the essential and vital characteristics of each form of religion. Moreover, in following him, we are not led to regard this evolution as having already culminated and reached its fruition in some now existing form of cult, creed, or church organization. It is true that Christianity is considered by him to embrace in its synthesis the true and permanent elements of the less perfected religions, but it is not represented as free from defects, or as having worked out as yet its own highest capabilities. It may be added that if Dr. Dorner's style lacks something of the Hegelian grip and vigor, it has the merit of being always clear and intelligible.



Perhaps to many readers the most interesting and suggestive part of the book will be found to be that dealing with the modes in which the religious consciousness finds expression. It is the opinion of our author that in the highest form of the religious life, the religion of a Divine Humanity (*Gottmenschheit*), the *specific* manifestations of the religious spirit, such as sacrifice, sacraments, vaticination, and prayer, must first become spiritualized and free from material associations, and with this increasing idealization, they tend to merge and become lost in an ethic, æsthetic, and science, all of which are religious in spirit. The evolution of religion is, in fact, the progressive liberation of the spiritual from the sensual and imaginative supports on which at first it relies, accompanied by the ever more direct and adequate consciousness of the relation of the self to that Divine unity which, in the author's view, is implied in all knowledge, art, and rational activity. Hence, even church organization is represented as at best a temporary and pedagogic expedient, which, at the highest stages of the religion of Divine Humanity, may be laid aside, since it is in the conscious relating of a fully developed personality to its divine source and origin that the ideal religious life consists.

It is hardly possible within the limits of a brief review to criticize in detail a work containing so much debatable matter as is necessarily included in a treatise on the Philosophy of Religion. It must suffice in the present instance to indicate but two points on which the conclusions of Dr. Dörner may be open to question. One of them is his rather arbitrary exclusion of certain philosophic systems from the sphere of religious belief. We have seen that he claims that religion, embracing as it does a cognitive element, must rest on an underlying philosophy; and that this, however vague and imperfect, must be in some sort monistic and spiritualistic, growing more definitely so as religion develops into purer and higher forms. A materialistic or pluralistic theory of reality is, therefore, so far forth, anti-religious; as is also any form of solipsism which finds the only unifying principle within the subjective ego, while positivism, which is content to elevate altruism into a religion, is condemned as anti-religious as well as anti-metaphysical. But is there not here an unnecessary restriction of the content of the cognitive element in religion? Is it, in fact, essential to the latter that there should be any one particular mode of envisaging the facts of the universe? That the higher and more spiritual manifestations of religion are the outcome of a temper and outlook which may justly be called philosophical is beyond question, but the very freedom of personality on which Dr. Dörner insists as

essential to the religious ideal would demand first that wide divergence of character and variety of standpoint from which result the many and unlike answers offered to the riddle of existence. Religion, as the effort of the soul to establish a harmony between itself and the whole of which it is a part, would seem to be consistent with any and every sincere and earnest endeavor to conceive rationally of this whole, irrespective of the nature of the theory in which this endeavor may result. Certainly it would be hard to prove from history or biography that the religious spirit, in the case of men who formed speculative theories, was confined to the representatives of an idealistic metaphysics; examples to the contrary spring readily into the mind.

Another part of Dr. Dorner's exposition which seems to the present writer to be not wholly satisfactory is his attempt to rehabilitate those classic "proofs of the existence of God" which played such a prominent part in philosophy and theology before Kant undertook their overthrow, and which, since his day, have been from time to time reasserted with various modifications and amplifications. The subject is too large a one to be entered into here, but Dr. Dorner's reasoning seems in this regard less cogent and less clear-sighted than is usual with him. Do we not indeed realize the futility of any such attempt to put new wine into old bottles when we ask whether we would expect any one not already believing in the existence of God to be convinced by any or all of these so-called 'proofs'? But, indeed, till we have determined what content the concept of God is to carry with it, the attribution of existence avails little either for thought or for life, and perhaps when its meaning is unfolded no proof of existence is needed.

E. RITCHIE.

HALIFAX, N. S.

*A History of European Thought in the Nineteenth Century.* By JOHN THEODORE MERZ. Vol. II. Edinburgh and London, William Blackwood and Sons, 1903. — pp. xiii, 807.

In this volume the author brings to a successful conclusion the first part of his extended survey of the progress of nineteenth century thought, dealing with the development of scientific thinking. The first volume (noticed in this REVIEW, Vol. VI, pp. 415-418) contained the introduction to the entire work and the earlier chapters on scientific, especially astronomical and chemical, thought. The present treatise completes this division of the history with chapters on the kinetic or mechanical view of nature, the physical view, the morphological view, the genetic view, the vitalistic view (in which the deeper biological problems are considered, not merely any one of

them or any special solution of the question of life), the psychophysical view, the statistical view, and the development of mathematical thought during the century ("the first attempt to give to this abstract region of thought a place in a general history of intellectual progress," p. vi).

The wide range of subjects considered is evident from these heads of discussion. Equally remarkable is the body of first-hand information exhibited by the author, in refreshing contrast to the imperfect information and faulty workmanship so often displayed in the various "histories" of this or that form of nineteenth century culture which recent years have brought. The long years of severe research which Mr. Merz has given to the preparation of his work have been well worth the while. So much is plain beyond a doubt from this first completed portion of his task. If the remaining divisions on philosophical thought and religious thought (taken in a broad interpretation of the term, cf. Vol. I, pp. 68-69) fulfil the promise of the one which is here given us, the total result will be a work of moment for the progress of thought itself.

Meanwhile, we have a much-needed history of science during the past century, or, rather, of scientific thought; for Mr. Merz has rightly chosen to write a history of the thinking in virtue of which science has proceeded, and of the great constructive ideas in which it has issued, instead of a detailed record of scientific discovery (cf. Vol. I, p. 81, Vol. II, pp. 627-628, *et passim*). Thus the treatise is conceived from a point of view genuinely philosophical, and the results attained prove, as might have been expected, of intrinsic value even for the student of philosophy in the restricted technical sense. Indeed, it is often tantalizing to have the full consideration of the philosophical questions suggested by the purely scientific argument deferred, as the plan of the work necessitates, to the subsequent portions of the inquiry. 'Energy,' 'life,' 'genesis,' — of course, no thorough description of the fundamental scientific conceptions such as the author has given could fail to lead up to the problems of philosophy; so that the reader is tempted to wish that summary accounts of them had been vouchsafed at the places where they first come up, even at the risk of reduplication. At certain special points this absence of complete discussion becomes peculiarly noticeable. In regard to the theory of evolution, for example, Mr. Merz appreciates, as many later writers have not done, the relative importance of the parts which philosophy (Hegel as well as Spencer, cf. Vol. II, p. 278, note) and science have played in the origin and spread of genetic

principles; but, although it cannot be denied that juster views on the matter than those which are ordinarily entertained by English and American thinkers would conduce to progress in our thinking, few readers except those who are antecedently informed will gather the full truth from the discussions in Chapter ix.

The treatment of evolution may serve to illustrate further questions of method. The principal subject is the history of scientific thought, the history of science proper being attempted only in so far as it may be expected to promote the main purpose. But it is often a difficult matter to decide, on the one hand, just what concrete advances in the solution of scientific problems have accompanied or occasioned progress in the broader reaches of scientific thinking, and on the other, with how much detail it is necessary to explain particular ideas or principles in order to bring out their influence upon the general course of intellectual development. The question is further complicated by the chronological factor — the order of time and the order of logic notoriously diverging in repeated instances — and by the order and necessary limitations of expository treatment. So in the case before us. It would be too much to say that an adequate statement of the great biological advance which marked the culminating period of the last century is not to be found in the two chapters of the present work which are devoted, respectively, to the genetic view of things and to the larger questions of biology; but unless the reader starts with a fair knowledge of the Darwinian theory at least, he will be embarrassed to estimate the nature of organic development in its bearing on genetic theory. Part of the difficulty arises from the very excellence of the work. In the text, there is not infrequently to be found a successful simplification of principles (even a layman can gather some comprehension of mathematical progress from the remarkable final chapter), which, while it enhances the clearness of the discussion, may mask the full purport of a doctrine. In the notes, the author has preferred to give extended bibliographical references and even biographical summaries, somewhat to the exclusion of elaborations of special scientific ideas. Throughout the book the proportion of notes to text will seem to many excessive; if in the later volumes the same balance is to be preserved, a different selection of topics in the direction indicated might well be adopted.

Of greatest interest to students of psychology and philosophy is Chapter xi, which treats of "The Psycho-physical View of Nature." The term psycho-physics is used here in its broader rather than its narrower meaning, in particular, to cover the entire field of physio-

logical and experimental psychology. The discussion turns for the most part about the earlier developments of the new science, with less notice taken than the specialist could wish of the later or most recent phases of psychological thinking. It is for this reason, among others, that the chapter falls out less complete than is the case with the author's accounts of other divisions of the scientific field; the psychologist, at least, misses a discussion of the interpretation of Weber's law, of psychometry, in the sense of the time-measurement of psychical states, and what is remarkable in view of the author's decided tendency to equate science with exact knowledge mathematically formulated, a full and thoroughgoing discussion of the general question of mental measurement.

It would be misleading, however, to suggest such possible criticisms without dwelling once more on the importance of Mr. Merz's undertaking, and the great success with which he has executed this first part of his elaborate programme. The two volumes now completed form, with their detailed analytic index, a treatise complete in itself and of the highest value for all who desire an intelligent understanding of the thought of the age. Nowhere in English will the student find a record of modern science so comprehensive in its plan and so excellently carried out in details, by a writer who himself has gained a sympathetic mastery of the subject which he treats. Few things could be more helpful to philosophical inquirers than a careful study of this history of the phenomenal thinking on which, as we now agree, their own speculative endeavors must so largely be based; and few, it may also be added, more salutary for the man of science proper, who, as now too often happens, lacks just that broad outlook over the field of phenomenal investigation which the present treatise is fitted to afford.

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*Philosophie de l'effort—essais philosophiques d'un naturaliste.* Par ARMAND SABATIER. Paris, Félix Alcan, 1903. — pp. 480.

As the subtitle indicates, this book may be regarded as an expression of a renaissance of coöperation between scientists, especially biologists, and philosophers. The book is not a systematic treatise, but consists, in the fashion of books nowadays, of an introduction and a collection of essays, some of which have been published before. The headings are as follows: Introduction: Responsabilité de Dieu et responsabilité de la nature; I. De l'orientation de la méthode en évolutionisme; II. Évolution et liberté; III. Évolution et socialisme; IV. La prière; V. Dieu et le monde; VI. Finalisme; VII. Conscience

et conscience ; VIII. L'instinct ; IX. Creation : Rôle de la matière, Immortalité ; X. Energie et matière ; XI. L'univers matériel est il éternel ? XII. Vie et esprit dans la nature.

The unifying ideas of this somewhat heterogeneous collection, as stated by the author (p. 17) are : "There is in nature an ideal which may be stated as the development and perfection of spirit in the form of ever-stronger individualities and ever higher personalities."

"There is in nature a manifest impulse to the pursuit and realization of that ideal and a will which corresponds to that impulse. This evolving impulse constitutes a feeling of biological obligation immanent in nature."

"Effort is the result of this impulse. It expresses the activity of nature . . . exhibited in realizing this ideal. Effort is omnipresent. It is the '*promoteur par excellence*' of the ascending evolution of the universe."

"The moral ideal as the end of nature, the aspirations and power to realize this ideal, nature owes to its divine origin in the sense that it is precisely the result of the evolution of a germ detached from the Creator, that is, a germ of the supreme Wisdom, of the supreme Love, of the divine Energy."

In view of the present widespread circulation of pragmatic doctrines, the title is likely to arouse in some expectations which the book does not realize. One might expect in a *Philosophie de l'effort* to find some attempt at a 'Logique de l'effort'—at a reinterpretation of some fundamental categories from the standpoint of effort, and thereby a reconstruction and enrichment of the meaning of effort itself. Such a systematic treatment as this would require should, however, scarcely be expected from the laboratory of a biologist—not that it might not be better done there than in the logician's den, if only the infusoria, etc., did not require too much sensorial attention.

As might easily be anticipated from the statement of the theses given above, much of the book is frankly apologetic in character. This, of course, should not in itself prejudice its philosophic claims, provided the latter are made good. This, in the opinion of the writer, has not been accomplished with great success. Too often rather dogmatic generalities, and, at times, somewhat mystical analogies, take the place of expository and argumentative details. For example, one would expect somewhere, say in the essay on "The Method of Evolution," or in the one on "God and the World," some detailed development of the statement given above that "Nature is precisely the result of the evolution of a germ detached from the Creator." But we find there

discussions, supported by plenty of interesting facts to be sure, of such general and now rather familiar considerations as that all life must have its source in other life, that life pervades all matter, and that "*mentalité*" pervades all life, is the essence of all life.

In dealing with the relations between God and the world, which is really the author's central theme, a very old difficulty is encountered. The omnipresence of a rational, patient, powerful, loving effort, *in* the world (p. 224 *et passim*) is taken as evidence of the existence of a certain eternal ideal to the realization of which all this effort is directed. On the other hand, when maintaining and defending the "transcendence and independence" of the source of this ideal, the imperfection, disorder, weakness, and evil of the world (pp. 214, 270) are pointed to as incapable of generating this ideal. The problem of evil, by the way, is not systematically discussed.

In common with many other defenders of a fixed infinite ideal, the author does not seem to feel certain difficulties connected therewith—difficulties especially acute for one who makes the standpoint of evolution so absolute as he does. If evolution is a universal process, how can the ideal avoid participating in it? Must there not be an evolution of the ideal? Yet the author rejects this as degrading to the source of the ideal (p. 214). If effort and development are so glorious in the creature, why should they be degrading to the Creator? Again, if we seek to escape by placing the ideal at an infinite remove from finite activity, how can it be applied day by day to specific cases as a criterion of truth and goodness and as a concrete developmental stimulus in finite life? On the other hand, if it be actually realizable, how is evolution to go on after the realization is accomplished?

The author appeals especially to moral experience (p. 224) as evidence of the existence of this fixed and infinite ideal. He evidently does not see that the difficulty of applying to changing, finite conduct a fixed infinite standard is just as great in the ethical as in the logical case,—inevitably so, of course, since each is but a different phase of the same situation.

Evolution, as the march toward this eternal ideal, is sharply opposed to the mechanical monism of Haeckel. But it is difficult to see how a process whose goal is definitely fixed, and whose steps are inexorably and transcendently ordered toward it, is itself to escape all suspicion of being mechanical. What could be more mechanical than a system the end and means of which are completely and finally determined?

In the fourth essay, the author offers a 'vibration' theory of

prayer that will appear to some grotesque, to others a substantial contribution "to the science of prayer."

The paper on instinct is the best of the more scientific discussions, though it too is written from the speculative standpoint. The 'lapsed-intelligence' theory of instinct is rejected. In its place is offered a general 'biologic' or 'bionomic' consciousness precipitated into the specific forms of the original instincts apparently according to the Creator's original and eternal plan. Some questions concerning the relation between what the author calls '*biologique*' or '*bionomique*' consciousness, the basis of '*individualité*,' and '*psychologique*' consciousness, the basis of '*personnalité*,' remain unanswered.

In his exposition of the significance of consciousness, in explaining the facts of animal, vegetable, and mineral activities, the author works out a pan-psychic conception of the world, interesting and suggestive, but again difficult to connect with the transcendent and independent Creator.

The style is very easy and clear, but suffers from repetition. Some of the essays could be condensed a third or a half without serious damage to the matter.

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## SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Am. J. Th.* = *The American Journal of Theology*; *Ar. de Ps.* = *Archives de Psychologie*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mèt.* = *Revue de Métaphysique*; *Rev. Néo-Sc.* = *Revue Néo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *R. d. Fil.* = *Rivista di Filosofia e Scienze Affini*; *V. f. w. Ph.* = *Vierteljahrschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych. u. Phys.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*. — Other titles are self-explanatory.]

### LOGIC AND METAPHYSICS.

*Der heutige Stand der mechanischen Weltanschauung.* HEINRICH WEBER.  
Deutsche Revue, XXIX, 2, pp. 155-164.

The *Mechanik* of Hertz represents the most recent advance in physical science. It is mainly an attempt to oust from its hitherto impregnable position the conception of 'force' or 'energy' as a mysterious somewhat, different from time, space, or mass. Four propositions concerning the outer world are necessary to a correct conception of it, *i. e.*, any theory of the outer world must be (1) logically admissible; (2) not in contradiction to the facts as presented; (3) complete; (4) simple. Hertz is especially concerned with the fourth proposition. In the history of science two systems especially have been dominant. The system of Hertz differs from both. All three recognize time, space, and mass. But in the Newtonian scheme 'force' (gravitation), and in the modern theories 'energy,' play an unwarrantable rôle. Hertz, on the other hand, makes reality at bottom a mathematical abstraction. Somehow there must be an 'overspace' of  $n$  dimensions. In such a world, then, say one of six dimensions, "a system of two points of ordinary dimension may signify only a point"; so in a nine-dimensional world, also, a solid body would be but a point. Now, if, in the three-dimensional world, two objects be connected by an invisible string and made to revolve, it might seem that these two bodies exerted 'force' upon one another. In reality, of course, they do not. So, however, with the planets, etc., of the visible world. The mind, ignorant of the fact that solid bodies are but 'representative points' in the 'overspace,' through its inability to prefigure  $n$  dimensions, cannot simultaneously grasp said two bodies, and so, thinking first one, then the other, falls back upon the erroneous conception of 'force.' Nevertheless, concludes Weber, Hertz's theory leaves still unexplained the connection of masses.

ARTHUR J. TIETJE.

*Der Neo-Idealismus unserer Tage.* L. STEIN. Ar. f. sys. Ph., IX, 3, pp. 265-330.

For half a century, academic philosophy has been reminiscent of older phenomenalist and idealistic systems. This is due to the influence of the now predominant category of thought. The four great epochs of thought are marked by the supremacy of four different categories, — object, property, condition (state), and relation. The earliest thought finds the permanent only in a thing or person. Scholastic philosophy dwells upon the eternal attributes of God. The renaissance (up to Leibniz) emphasizes permanent conditions based especially upon spatial order — as in the mechanical theory. Teleology is discarded; natural order reduces to the laws of motion; theism becomes deism or pantheism. All schools of the period ascribe transsubjective reality to space. The eternal condition manifests itself doubly — as the laws of motion in space, and as the laws of association in thought. The geometric method of Spinoza is the highest development of the period. In the eighteenth and nineteenth centuries, the category of relation is dominant. Uniformity is transferred from space to number and time; geometrical method becomes arithmetical; dead mechanism gives place to teleological dynamism, the atom to the conception of energy; activity replaces being as the essential nature of substance. Truths are either logical, necessary, resting upon the principle of identity; or factual, contingent, resting upon the principle of sufficient reason. Every valid universal judgment is an act of relational thinking which transcends spatial and temporal limitation. Natural laws, resting on induction, never attain complete certainty. In relational thinking, the understanding, so far as it merely ascertains the uniformity in the succession of its ideas, has to do only with its own functions. Apodictic judgments are limited to necessary relations; unconditioned necessity means inconceivability of the opposite. Necessities of perception, as distinguished from logical necessities, arise from the organization of the perceptive faculty. Such are the geometric axioms, — synthetic propositions *a priori*. The principle of all relation is numerical proportion. All numbers refer back to unity, as all judgments to the unifying ego. Relational thinking has become our second nature. Instead of reducing qualities to quantities, we reduce quantities to qualities, *i. e.*, proportions. Everything geometrical, everything logical, becomes arithmetical to attain complete certainty. In number we have what is completely subjective, mere judgment of identity, and so eternal logical truth. The predominance of relational thinking and of the numerical elements as criteria of reality and truth, with the consequent acceptance of human consciousness as the ultimate measure of all things, is the root of the phenomenism and neo-idealism of to-day. When the relation is substantialized, and number (as with Cohen) is raised to a category, strict neo-idealism results. When all relation is referred to the sensation-complexes of individuals, we have the neo-phenomenism

of Mach, Stallo, and Ostwald. Both parties take as their common starting-point human consciousness, the inner side of the world process.

THEODORE DE LAGUNA.

*Das Erkenntnisproblem und Machs Analyse der Empfindungen.* EMIL LUCKA. Kantstudien, VIII, 4, pp. 396-447.

(I) The great advance made by science during the last half of the nineteenth century has led some investigators to believe that science exhausts human knowledge, and that philosophy with its bold constructions is superfluous. But within the past twenty years it has been felt that scientific investigation cannot take the place of a systematic view of the world. The systems of Avenarius and Mach are the most original attempts at a world-view based on scientific methods. These men exclude all but the purely phenomenal, and substitute for the comprehensive thought of earlier centuries a biological method, in which only superficial facts are dealt with and the problems of the older philosophy are explained away. Though denying that he has a system, Mach speaks of his 'standpoint,' which is really a system of phenomenalism with a mixture of will-metaphysics. Mach makes no distinction between physical and psychical elements. Self-consciousness is set aside, and the kinds of elements are reduced to one. Points of view other than the biological are rejected, the causal law is extended to all fields, and sensation is made the source of experience. In criticism of this method, the writer points out that an investigator who does not make experience itself a problem can say nothing about problems which cannot be abstracted from experience by observation. In particular, he can never determine whether there are elements in experience which occupy an exceptional position in regard to other elements. He lacks a standard of measure for the worth of particular events, since for him they are all actual, not necessary. He cannot, without being false to the logic of his hypotheses, attempt to answer questions as to the greater or less necessity of thought. And judgments which refer not only to the reality but to the possibility of experience can have no place in his investigations.

(II) Mach's merely descriptive epistemology cannot explain the concept of necessity. Grounds of knowledge which do not spring from experience and which lead to logically necessary conclusions are recognized but left unexplained. There is a failure to see that the peculiar nature of causality is to be conceived, not from the standpoint of psychology, but from the standpoint of transcendental logic. The argument from uncertainty of the cause can have to do only with the special ground of a special event, not with the formal principle of causality. This distinction between the formal and material principle it is that Mach neglects in his attempted reduction of causality to customary succession. (III) Lucka gives a short account of the problem of substance in its various stages: naïve realism, modified realism, inconsistent idealism, and pure idealism. Except for his misunderstanding of the distinction between substance and thing-in-itself,

Mach arrives at a pure idealism. He denies substance, yet falls back on the functioning of that category to account for the union of perceptions with one another and with objects. (IV) Mach gives no special account of space, but his position is similar to that of James, Mill, and Bain. He believes that geometry is an empirical science deriving its certainty from the frequency with which its axioms are verified in experience. Lucka maintains that it is absurd to think that geometrical axioms might have been evolved in different forms. A good proof of the necessary character of geometry is afforded by the possibility of applying its results to space, *e. g.*, in the determination of an eclipse. Time is, for Mach, a sensation. In common with other physiological accounts of time, Mach's is unsatisfactory, inasmuch as time is postulated in the explanation of time. His theory can at best only show why a definite time seems subjectively long or short, and is quite unable to explain the one-dimensional character of time. (V) In the main, Mach's psychophysics follows that of Fechner. It affirms a complete parallelism between the psychical and the physical, and assumes corresponding nerve-processes for the sensations of space and time. Mach's attempt to make clear the phenomena of thought by means of physical events is unscientific, because an attempt to explain the partially known process of ideas by unknown processes in the brain. Lucka objects against psychophysics in general that it cannot explain the recurrence of childhood memories when the material structure of the brain has become completely changed; it cannot parallel the spiritual differences of the sexes by a corresponding difference in brain structure; and it cannot justly make extensive stimulus magnitudes commensurate with intensive sensational magnitudes. (VI) As Mach admits only one kind of elements, he is forced to explain the difference between concepts and percepts as a difference in the manner in which elements are united. In this excessive relativism all criteria of actuality are lost, and the ego is not real but only an ideal economic unity. Mach's system is consistently monistic because only one kind of world-element is recognized, while all idealisms agree that from the ethical viewpoint the world is dualistic. (VII) Though repudiating metaphysics in general, Mach displays great attachment to evolution. He touches ethics but lightly, and does himself honor by avoiding evolutionary utilitarianism. He agrees in general with social ethics, but his conception has a nobler individual character. But his explaining away of personality leaves Mach without a standard of morality, and bears witness to his failure to establish ethical postulates on a biological basis. Mach's error lies in his belief that all problems can be solved or excluded by an analysis of experience-data. His point of view is not critical but dogmatic, and his tendency to set aside problems is manifestly unphilosophical. A view of the world which, neglecting the higher capacities of man, gives worth only to a knowledge of physics and physiology, stands upon a false basis.

M. S. MACDONALD.

## PSYCHOLOGY.

*De la mémoire.* J. LARGUIER DES BANCELS. Ar. de Psy., No. 10, pp. 145-163.

Memory furnishes the content for intelligence. Analysis of its function shows that it determines the character of perceptual experience by giving it coherence. It is also the chief factor in governing volitional action. Experiment shows that modifications of activity and its adaptation to environment are due to memory, affording as it does matter upon which intelligence may work. The power of memory in any given case is a measure of intellectual capacity. When modifications of activity in response to stimuli occur, the correlated mental change is a reproduction in memory of past experience. For reproduction retention is necessary. This is a physical process, though the nervous change corresponding to it is undetermined. That a kind of connection is formed between the nervous elements of the brain, seems a necessary presupposition in maintaining an adequate theory of retention. By this cerebral retention of past mental activity, subsequent experience is modified. Constant reproduction taking effect in activity becomes automatism. Memory is thus the germ of habit, which, when fully developed, becomes human nature itself. And not only is the animal organism susceptible to a modification of activity through habit, but a similar phenomenon occurs in the endeavor of the plant to adapt its life to changed environment. The hereditary transmission of acquired characteristics is a transmission of organic memory through permanent modifications in the germ plasm. Even the inorganic world is in a sense amenable to the law of habit. The effect of changes there persists in a tendency to more easy modification in accord with previous changes, *e. g.*, a violin. In this sense, memory is a function of inorganic as well as of organic bodies, and a correct interpretation of the physical world aids in a complete understanding of the memory problem.

FRANK P. BUSSELL.

*On the Attributes of the Sensations.* MAX MEYER. Psych. Rev., XI, 2, pp. 83-103.

A classification of conscious elements can be legitimately criticised only by an inquiry into the scientific usefulness of the classification. Obviously a scientific terminology is useful in proportion as it fits our present knowledge without distorting or prejudicing facts, and is plastic enough to admit of change as new facts are discovered. The principle of independent variability, which is often proposed as a method of classifying sensations, lacks scientific usefulness because the quality and pitch of a tone, though certainly distinct attributes, cannot be independently varied. The scheme of classification here proposed is intended to apply only to peripherally aroused sensations, and does not involve the question whether sensations are the only elements of consciousness. A complex state of consciousness peripherally aroused can be simplified (1) by simplifying objective condi-

tions ; (2) by concentration of attention. If the two methods turn out similarly, the result is called a single sensation or an element of consciousness. If a complex state can be simplified by concentration of attention only (not by simplifying external conditions), the result is called an attribute of a sensation or an atom of consciousness. Suppose, for example, that consciousness could be reduced merely to peripherally stimulated visual sensations. Objectively, any stimulus is expressible in Helmholtz's formula,  $F = xR + yG + zV$ , and this stimulus can be simplified objectively only by reducing  $x$ ,  $y$ , or  $z$  to zero. We find, therefore, that any visual sensation which is uniform over a certain area of the field of vision must be called a single sensation, because it cannot be objectively simplified. By concentration of attention, however, we can still further simplify any single visual sensation. Seven attributes or atoms of sensation can be thus distinguished : duration, extent, brightness, bluishness, yellowishness, greenishness, and reddishness, though all these can never be united in one sensation. Thus, blue has bluishness, extent, duration, and brightness, while violet has all these and reddishness besides. By a similar process all the sense departments are classified and a table of all known sensations and their attributes is worked out.

GEORGE H. SABINE.

*The Consciousness of Animals.* EDOUARD CLAPARÈDE. International Quarterly, VIII, 2, pp. 296-315.

Loeb, Edinger, and other biologists, have sought to determine the objective criterion of consciousness in order to mark the place in the animal scale where this new factor must be reckoned with. According to them, consciousness is the function of a physiological process wholly determined by the associative activity of memory. An animal possesses 'psychic qualities' when it knows how to accommodate itself to new conditions, when it is able to learn. By aid of this criterion, the line has been roughly drawn between vertebrates and invertebrates. But this ability to learn, to associate, cannot be accepted as a test of the process of mental life. For there are simple, primitive acts resulting from no experience which are clearly conscious, and, on the other hand, there are acts evidently associative which are unconscious. Another criterion has been formulated by Watkins, who makes it the abrupt change of behavior shown, *e. g.*, by an infusorium ; but this test is also illegitimate, for a drop of mercury has the same appearance of spontaneity in the presence of a small crystal of bichromate of potash, when placed in a saucer containing some water acidulated with sulphuric or nitric acid. But the impossibility of an objective criterion of consciousness for animals might have been proved *a priori* by recalling the fundamental principle of physiological psychology ; the principle of concomitance or parallelism teaches the absolute distinction between the subjective and the objective, from which it follows that we cannot, the one being given, construct the other. In virtue of this principle, it is only empirically that we

can establish the criterion by noting or comparing the simultaneously corresponding moments of the two series, physical and psychic. The establishment of a criterion, then, requires that the two series should have been previously given; but they are not. But of what use is such an objective criterion to science? From the point of view of parallelism, the fact that a biological process may or may not be conscious makes absolutely no difference; for even if we prove certain animals to be conscious, we should be obliged to regard this consciousness as playing no part whatever, and to consider all the processes as if they were unconscious, which shows that an objective criterion of consciousness, supposing it could be established, would not respond to any need.

EMIL C. WILM.

*De la sensation à l'intelligence.* A. BINET. Rev. Ph., XXVIII, 11, pp. 449-467; 12, pp. 592-618.

In some experiments on school children the author found that the limen of 'twoness' varied widely with different subjects, the keenness of sensibility apparently standing in a fairly definite relation to intellectual capacity. He then modified the usual methods, using a standard and a variable separation, and requiring his subjects to compare the two and tell how their conclusion was reached, and carried out a series of further experiments with reference to the relation just mentioned. The subjects fall into two classes, 'conscious' and 'unconscious,' those able and those unable to explain how their judgments were reached. In the latter class, there was frequent lack of interest—these subjects were, for the most part, uneducated—and very often the judgments were given haphazard; but even then the larger part were correct, showing that a subconscious influence was at work. These subjects declared that they "felt" the difference—it was, for them, a sensation. The 'conscious' subjects are divided into two groups, which the author calls the 'normal' and 'aberrant' types. Those belonging to the former fall into four classes according to the methods of comparison which they use. (1) In the first, the judgment is based on the form and simple character or 'twoness' of the contact. (2) In the second, the comparison is by abstract localization, *i. e.*, the subject visualizes the stimulated points on a plane surface. (3) In the third, the comparison is by concrete localization, *i. e.*, the points are visualized on the skin and in definite relation to particular parts of it. (4) In the fourth, the judgment is based on the keenness of sensation. Some of the subjects used two of these methods, *e. g.*, the second and third. The subjects of the 'aberrant' type are characterized by the development of some special faculty. The author discusses two cases, a visual and a verbal. The former visualized the stimulated points and was able to 'see' all four points at once in his comparisons. The latter was a very poor visualizer and reached his conclusions by way of verbal imagery or metaphor. This dependence on the verbal image seems to be due to the weakness of the memory for sensations and the inability to visualize. When words or verbal images are

lacking for the finer differences of sensation, the power of discrimination is slight, indicating the relationship between mental type and perception. Hyperæsthesia of the sense organ, shown by exceptional acuity of perception, is frequent. It seems to be a periodic phenomenon in the cases in which it appears at all. The author performed another series of experiments with the object of determining the mental processes involved in the perception of 'twoness.' Here the emphasis was placed entirely on the introspective data. Here again there were large individual differences. In some cases the subjects confined their responses to the statement that two points were felt and no further analysis of the mental processes involved could be reached. The other subjects fell into two classes, determined by the one of two processes of interpretation reported — the verbal and the visual. The verbal process of interpretation is a judgment which is independent of the sensations which it interprets; the visual process involves either visual or tactual imagery or both, and it is by means of these that the perception of 'twoness' is reached; and these different methods of interpreting sensations are determined by the mental type or the peculiar modes of psychical activity which prevail in the mental life of the individual.

C. E. GALLOWAY.

#### ETHICS AND ÆSTHETICS.

*Science et conscience.* F. RAUH. Rev. Ph., XXIX, 4, pp. 359-367.

The author contrasts his views with those of Lévy-Bruhl. Should man in moral action consult his conscience, or regulate his conduct exclusively by the objective standards set up in society? The verdict in the last resort belongs to conscience, since man is not a simple spectator of reality, and the moral idea, like all others, is not a fixed entity, but the product of individual observation. The standpoint of all moral observation is the present, not as a mere datum, but as the solution of moral problems which is coming into being in the really free and unprejudiced consciences. The sociological moralist runs the risk of destroying the individual initiative of conscience in his submission to physical and biological concepts from which sociology has already freed itself. His hypotheses are static instead of constructive. Between sociology and the metaphysic of morals there is room for a positive ethics, which might be called the experimental study of an ideal type of action.

EDMUND H. HOLLANDS.

*Le cynisme : étude psychologique.* ÉMILE TARDIEU. Rev. Ph., XXIX, 1, pp. 1-28.

(I) Cynicism may be briefly defined as the approbation of our immoral instincts, the determination to vilify and despise our nature. It is a deliberate egoism that vaunts itself and smilingly avows our unworthiness. As a philosophy, cynicism affirms the nothingness of all things and professes complete contempt for human nature. (II) Cynicism has its theorists, who defend it as justifiable and legitimate. Their whole defence rests on a condemnation of humanity and of life. The justification of cynicism



lies in its teaching us to meet the dangers and difficulties of life with irony and smiles : " This world is hideous, but it is all the same to me." (III) The metaphysical basis of cynicism is the immorality of nature and of life, and the inexorable necessity of egoism. Nature is immoral in that it makes no distinction between the just and the unjust, and promises neither punishment nor reward. Life is immoral in that it is blindly given and taken away without reference to our wishes or demands. It is uncertain, ephemeral ; death pursues us and at the same time bids us seek in passing pleasures forgetfulness of its presence. Egoism is the law of our being, the rule of our every action. Friendship is but an exchange of services ; we give that we may receive. (IV) Cynicism is necessarily connected with certain types of character and foreign to others. It is characteristic of the forceful, the wicked, the passionate ; it is the refuge of the vanquished, and the propensity of vulgar minds. (V) Cynicism shows itself in a thousand different ways and situations. (a) There is collective cynicism, revealing itself in the indifference or amusement with which we daily read of crime and disaster, and the pleasure with which we hear of an advantage gained for the nation through force or fraud. (b) Cynicism of masters manifests itself in the supercilious airs of the thinker, the wealthy, and the physically strong. (c) Cynicism of slaves arises from lack of freedom and its consequent excess of suffering. Belonging to this class are the man in public life, the servant, and the infirm. (d) Cynicism of married life is, in its extreme form, typified in the tolerance of adultery. (e) A fifth form is cynicism in the relation of parents to their children. The father gives himself the air of a superior being, and strengthens his authority by teaching religious views in which he does not believe. (f) Cynicism in the practice of a profession is exemplified in those who, through accident or constraint, have chosen a profession for which they have no love, and which they regard as a means of exploiting the public. (g) Inward cynicism is the cynicism of the Ishmael who, in his loneliness, curses the world and God. (h) An example of cynicism in our relation to God is our invoking the Deity at the approach of death, and giving up worldly pleasures when we can no longer enjoy them. (i) There is cynicism in our attitude towards the feeble, whom we treat with no consideration, or are kind to only through fear that we ourselves may sometime be in a like plight. (j) Lastly, there is the cynicism familiar in all the common acts of life. The waiter gives scant attention to those from whom he expects no tip ; the upstart's insolence grows with his rising fortunes ; and our friends are held or lost according as our life is a success or a failure.

M. S. MACDONALD.

*Anschauung und Beschreibung.* MAX DESSOIR. Ar. f. sys. Ph., X, 1, pp. 20-55.

Two problems are investigated, — the relation of words to sensory images in poetical description, and the adequacy of verbal description to

the ends of art-history. Language arose from the transposition of a sensory presentation into a vocal gesture; and even now, in speaking, we often have to do with the translation of single perceptible details into verbal ideas. For the poet this procedure is the rule. The sense-presentation does not remain in the verbal idea; nor can a word become an act of perception, though in disappearing from consciousness it may call up a sensory image. Does the poet's art consist in exciting in memory and imagination images of the greatest vividness? With each single word various images are associable, and each sentence permits of various supplementations. We bring forward images from our own experience, which probably never coincide with the picture that presented itself to the poet. The suggested images are much too weak to explain the strength of the æsthetic impression. Poetical moods are produced by phrases which could not possibly have a perceptual character. The æsthetic impression proceeds not, as is commonly thought, from the images casually suggested by the language, but from the language itself and the structures peculiar to it. Poetical descriptions represent reality in the sense that similar psychical consequences attach to them. As for descriptions of works of art, since the most various accounts are often given of the same picture, it is clear that in each account something essential is lacking. The most brilliant verbal descriptions lack the exactness which would restrict them to a particular artist or school. Only within narrow limits and without entire certainty can words place the rough outlines or arrangement of a picture before the eyes of one who has not seen it. The proper recourse is, with Winkelmann, to forego exact description and attempt to reproduce only the subjective impression.

THEODORE DE LAGUNA.

#### THE HISTORY OF PHILOSOPHY.

*Le testament philosophique de Renouvier.* L. DAURIAC. Rev. Ph., XXIX, 4, pp. 337-358.

Renouvier emphasized the dependence of the metaphysical problem of nature on the psychological problem of perception. His philosophy of nature was monadist; but, unlike Leibniz, he repudiated mechanism as implying two inexplicable notions, space and movement. Though he was a phenomenalist, he denied the infinity of the universe, and was able to do so because he perceived, as Leibniz had not, that the monads as centers of perception, as acts, were discrete and capable of enumeration. His criticism is not that of Kant, since he knows of no 'things-in-themselves', and his all-inclusive category is that of personality. His doctrine of personalism rests on four postulates: (1) the moral imperative; (2) the moral necessity of recompense; (3) the creation of the world; (4) the pre-existence and fall of souls. The present condition of things is evil; but the world was created good and men placed in it endowed with freedom of will. Its forces were perverted in consequence of their perversion, and it fell into chaos. As its present state gradually evolved from the nebula,

the living germs of the first men, hidden in matter, were reborn, so that we are our ancestors. Renouvier, at first inclined towards a kind of polytheism, came in 1885 to hold that the finitude of the world in space and time, since the actual infinite contradicts itself, involves a creator. Also, since he saw the categories, with personality at their head, as universal laws, he came to believe that there must be a thinker who has this objectively necessary thought. In his cosmogony, Renouvier asserts the right to employ imagination, working under the guidance of reason, in the construction of hypotheses to assist in the task of philosophy.

EDMUND H. HOLLANDS.

*Emerson und Kant.* G. RUNZE. Kantstudien, IX, 1 u. 2, pp. 292-306.

It is a matter of surprise that Emerson, who was acquainted with Luther, Boehme, and Goethe, and who named at one time or another not only all the leading but many of the secondary philosophers of England and France, should have completely ignored Kant. Simple ignorance of the significance of the great German cannot be assumed; he either did not understand him, or, what is more probable, he found nothing in him which was foreign to his own way of thinking. The similarity between the two men certainly does not strike one at first sight; the contrast between them is in some respects complete. Kant's style is prosy, heavy, pedantic; Emerson's figurative, brilliant, powerful. Kant's thought is careful, laborious, acute; Emerson's ideas are suggestive, rich, many-sided; he overwhelms his readers with a wealth of details, scientific, historical, psychological. Kant is exhaustive; Emerson merely suggests a problem and passes on; but he leaves the reader stimulated, as if he had read a severely philosophical treatise. One of the most striking things about Kant's philosophy, the duality of the world of sense and the world of morality, Emerson apparently transcends. The great heroes of humanity stand above the distinctions good and bad. In the essay on Montaigne sensibility is opposed to morality, and the opposition can be transcended only by the disinterested spectator who, with his æsthetic and teleological judgment, recognizes both worlds and leaves out of account neither the objects of the one nor the tasks of the other. There is a similarity in the two thinkers' views on determinism, on the good will, in their belief in a moral world order, in their efforts, by criticism, to set limits to the powers of theoretical reason and thus to reclaim for faith the field vacated by a pretended knowledge. The autonomy of the intellect and the moral will is recognized by Emerson; his idealistic theory of knowledge is akin to the Kant-Fichtean, the fundamental conceptions of Kant's transcendental idealism, however he may have come by them, being hinted at throughout his writings. The stamp of human reason is upon the external world; its laws are not derived from the nature of things, but are imposed on them. Without the active, synthetic function of the understanding, the world would be but an indistinct mass of sense impressions. While Emerson is preëminently a poet in his

sympathies, and is perhaps not directly indebted to Kant for anything, yet the roots of his philosophy may be traced to scientists, poets, and thinkers who have, all of them, gone to the school of Kant for their starting point and inspiration.

EMIL C. WILM.

*La décadence de la scolastique à la fin du moyen âge.* M. DE WULF. Rev. Néo-Sc., X, 4, pp. 359-371.

That Mediæval scholastic philosophy was not wholly barren is shown by its sixteenth century development in Spain and Portugal. It declined because it lacked method and proper linguistic expression, and because of the blind dogmatism of its advocates. Thought was swamped amid dialectical subtleties; men were copiers and commentators, rather than creative thinkers. Science suffered likewise. Aristotle's theory of spiritual astral substance as immutable still held sway and affected all scientific theories of astronomy, physics, and mechanics. The heavens were composed of pure ethereal substance indissolubly linked with substantial form, but the scholastic thinkers rejected the eternal existence and divinity which Aristotle had ascribed to them. They accepted the Ptolemaic theory, together with Aristotle's view that there are four sublunary elements, earth, air, fire, and water, all homogeneous in nature, and that a fifth exists as substratum and forms the heavenly bodies. The successive transformations, one into another, explain change. His theory of the unmoved mover was also accepted. Belief in these doctrines explains much of the attention given to astrology and alchemy. Copernican astronomy destroyed these theories. All astronomical and physical theories had to be remade or modified. Many thinkers, however, still clung to them, believing that their destruction meant destruction of metaphysics itself. Scholastic philosophy thus fell into disrepute as a result of the discoveries of the seventeenth century. Bacon reproached the scholastics for their ignorance of history and natural science. Other open-minded thinkers developed their philosophy in accord with the demands of scientific studies. The vital problems of philosophy still remained, though the blindness of its advocates had for the time lost sight of them.

FRANK P. BUSSELL.

## NOTICES OF NEW BOOKS.

*Aristote.* Par CLODIUS PIAT. Paris, Félix Alcan, 1903. — pp. viii, 396.

The volume before us belongs to the series entitled "Les grands philosophes," in which the study of Socrates by the same author, who is also editor-in-chief, appeared in 1900. The author's point of view is that of the scholar who gives an exposition of a system from within, aiming to reproduce in outline, but in their intrinsic proportions, the doctrines as held by the philosopher.

This 'internal' method has unquestionable advantages. It enables the expositor to proceed to his task directly and to pursue his aim steadily to the end, without pausing to notice every question in controversy. The account may thus be made thoroughly objective, and there may be attained a symmetry and a perspicuity otherwise well nigh impossible. The plan would be an ideal one if the reader's interest should prove to be that of the man who cares only for the thinker, and for his thought only so far as it may be related to itself in its various phases. But even so, to be entirely successful, the account thus given would require for the careful student copious notes designed to mark disputed points of interpretation. For this purpose, an adequate acquaintance with the latest literature of the subject would be indispensable. But in the volume before us M. Piat gives no evidence of such knowledge, and indeed the bibliographical appendix is sadly discouraging to one who looks for the latest and best books on Aristotle.

The disadvantages of the method, especially as here exemplified, must be patent to every student. The intelligent reader of to-day, whether a professed student of the history of thought or not, is not so much concerned to know the precise place which a particular conception held in the systematic exposition of Aristotle's thought, as to ascertain the antecedents and consequents of that conception — in a word to discover the historical value of the system and of its constituent parts. It is hardly necessary to say that M. Piat has done nothing to satisfy this natural demand. It might, indeed, have been met by the judicious use of footnotes, but our author preferred to ignore it. At the beginning he plunges *in medias res* and never really takes up the question. Only one exception is made: here and there a remark is added to make clear the relation between the doctrines of Aristotle and of Saint Thomas.

Two instances will serve to illustrate what I mean. There is perhaps no other conception of ancient philosophy so fruitful of good and evil as that of *potentiality*. While it is true that Aristotle himself tends to keep the direct consideration of it in the background, there can hardly be a reasonable doubt that it is in fact the master key with which he opens every door that threatens to impede his progress. Of all this there is, of course, not a

hint in the account given by M. Piat. The very notion of potentiality receives scant justice, being noticed, as it were in passing, in connection with other allied conceptions. Regarded also from the historical point of view, as it concerns either logical or physical science, the notion is of extraordinary interest. Another case in point is the idea of qualitative change (*ἀλλοίωσις*). When one surveys the thought of the Middle Ages, which is Aristotelianism writ large, one is astounded at the fruitfulness of this conception. One has only to refer to two among the many aspects under which it reappears in order to make clear its significance. One is the idea of transmutation, met in alchemy in its firm belief in a philosopher's stone. The other is the theological doctrine of transsubstantiation. What cognizance does M. Piat take of this conception? He passes over it with only a citation from Aristotle, enumerating it with the other forms of change (*μεταβολή*) in the chapter on *Motion* (pp. 96 ff).

I have said enough to characterize the book in hand; it is, in spite of its bulk, a meager though fairly faithful restatement in outline of the Aristotelian philosophy from the point of view of Aristotle himself. It casts no glance behind or before to take in the relation of the system or of its several doctrines to the larger movement of thought which we call the history of philosophy. It may well be doubted whether such a book was greatly needed.

W. A. HEIDEL.

IOWA COLLEGE, GRINNELL.

*Naturbetrachtung und Naturerkenntnis im Altertum: Eine Entwicklungsgeschichte der antiken Naturwissenschaften.* Von FRANZ STRUNZ. Hamburg und Leipzig, Verlag von Leopold Voss, 1904.—pp. viii, 168.

This book contains six chapters: I. Introduction; II. The Theoretical Basis of the Conception of Nature among the Oriental Peoples; III. The Practical Study of Nature among the Oriental Peoples; IV. The Conception and Philosophy of Nature in Classical Antiquity; V. Scientific Practice in Classical Antiquity and in its Decline; VI. Epilogue.

The most marked difference between the present work and others of similar scope that have recently appeared is that its main concern is with science rather than with philosophy. One thinks naturally of such books as Gomperz's *Griechische Denker* and Benn's *The Philosophy of Greece*; yet the fields occupied by the three works is by no means the same. The scheme adopted by Dr. Strunz is that of a parallel account of the theoretical and the practical aspects of the conscious relations of the ancients to nature. The subject is one to awaken curiosity, and the Introduction is such as to raise expectations of great results. I regret to say that one's high hopes are somewhat rudely dashed as one proceeds with the reading of the book.

The Introduction contains some striking aphorisms on the proper method to be observed in writing the history of thought. With much that is there said the present reviewer finds himself in the heartiest agreement. But

there appears in the body of the book no serious effort to apply the method; hence it will be of no avail to transcribe what we must regard merely as fine phrases.

Few things would be more cordially welcomed by scholars than an honest attempt, — however much questioned its results in detail, — fully to state and intimately to relate the two series of ascertainable facts: first, the practical knowledge had by mankind at various epochs of the phenomena and processes of nature, as manifested in the arts, sciences, and handicrafts, as well as in the social institutions, such as the domestic, the political, the religious; second, the theoretical evaluation and interpretation of life and nature, as displayed in mythology, religion, morals, and philosophy. It was not precisely this, but something like this, that Dr. Strunz contemplated. What he has actually done is this. He has with commendable diligence collected from many sources, — good, bad, and indifferent, — much matter that may serve another more competent to deal critically with it, when the right man undertakes to set ancient theory and practice in things pertaining to nature into clearer relations. Dr. Strunz himself has done little or nothing in this direction, leaving the two series of facts quite unrelated.

While the work before us is, in a sense, a *rudis indigestaque moles*, it is not a useless book; indeed, there are here and there portions worthy of most diligent perusal. Students of ancient thought will find little of value in the brief characterization of the philosophical opinions of the Greeks; but on the side of science and technology, where the author's interest manifestly centers, there is much to stimulate thought.

In his treatment of the oriental peoples, Dr. Strunz quotes freely from the less technical recent literature, giving the results which may be regarded as on the whole at present received; in the earlier part of the history of occidental thought he is not always so fortunate, quoting with approval sometimes from the briefer handbooks, sometimes from recent literature, statements which it were wiser to ignore. On the other hand, his previous occupation with Theophrastus Paracelsus has familiarized him with certain phases of the influence exerted by Aristotelianism on mediæval thought, which he brings out clearly and forcibly.

I dare not finish this brief notice of the book without saying that its author appears to recognize in some degree its shortcomings, and holds out a hope of amendment in the future. In his brief preface he says, "Vielleicht wird das, was vorläufig stark aphoristische Akzente trägt, später breiter und tiefergründiger ausgearbeitet werden."

W. A. HEIDEL.

IOWA COLLEGE, GRINNELL.

*Theophrastus Paracelsus, sein Leben und seine Persönlichkeit. Ein Beitrag zur Geistesgeschichte der deutschen Renaissance.* Von FRANZ STRUNZ. Leipzig, Diederichs, 1903. — pp. 127.

The labors of Dr. Karl Sudhoff have thrown much light on the life and character of Paracelsus, the famous natural-philosopher and professor of

medicine at Basel. In his *Kritik der Echtheit der paracelsischen Schriften* (Berlin, 1894-9), Sudhoff has given us the results of years of investigation of the manuscripts and printed works attributed to Paracelsus; while the *Paracelsus-Forschungen* of Schubert and Sudhoff (Frankfurt a. M., 1887-9) have disclosed the falsity of many of the traditions respecting his life which have been handed down by his enemies. In the gentle art of making enemies, indeed, Paracelsus seems to have been an adept; witness the celebrated Latin poem *Manes Galeni adversus Theophrastum sed potius Cacophrastum*; also the judgment pronounced on him not many years after his death by Bernhard Dessen, professor in Löwen: "Paracelsus est magnus [*i. e.*, magus] monstrosus, superstitiosus, impius et in Deum blasphemus, infandus impostor, ebriosus, monstrum horrendum." Only a few years ago, moreover, Professor Dalton, in a lecture before the New York Academy of Medicine, spoke of Paracelsus as "the most complete and typical representative in history of the thorough-paced charlatan."

Such extremely hostile views, however, are now a thing of the past. Full of enthusiasm and at the same time thoroughly imbued with the scientific spirit, Herr Strunz has given us a new and sympathetic portrait of the great Swiss humanist. In the new light of recent researches, Paracelsus stands out as one of the important figures of the German Renaissance, not merely as a reformer of medicine but as a bold and original thinker.

With the sketch of Hohenheim's life we are not here especially concerned; suffice it to say that Strunz has nothing to say of the charlatan, the drunkard, the devotee of vice, the Faust-type which the name of Paracelsus has connoted for many. We would call attention to the chapter on "Hohenheim als Persönlichkeit" as a brilliant exposition of the position of Paracelsus in the history of the Renaissance, and of some of his moral and religious ideas. For Paracelsus, nature was the open book in which man reads of God and eternal life. Not in himself but in nature was man to seek the interpretation of the unity of human experience; then God should be the guide, reason the light, and the mind the witness (p. 84). The nearer reason keeps to the evidence of sense, the more capable and efficient it will become; and conversely, the more it turns from what the senses have observed toward the uncertain and unknown, the greater the danger of wandering into fanciful errors. According to the light of nature, then, the universe was reconstructed by the scholars of the Renaissance. A frank, sincere, and pious seeker after truth, Paracelsus was a Christian Humanist of the Old-Evangelical type. He opposed both rationalism and the dreams of the transcendentalists. He saw God in nature, the macrocosm, as much as he marveled at the Divine reflection in the microcosm of mankind.

A mystic in the strict sense of the word he was not (p. 98). He was too much of a realist, too much of a follower of scientific methods of observation and experiment, too insistent on the concrete, the actual. Yet he had



some of the finer traits of the mystic. He thought to find God in himself, and sought with fervor to know Him. Nothing should come between his soul and God. His piety, however, was not merely a deep inner life, not merely the excitement of emotion; it was neither the personal religion of the Catholic nor the subjective philosophy of the Neo-Platonist. It was rather as a Christian Humanist that he was related to the great mystics (p. 100). Nature with its various phenomena was the explanation of the Godhead; the Godhead was the foundation of the world. God and the world were the same.

Space forbids us to give further hints of the contents of this most interesting chapter, which concludes with a discussion of Paracelsus's ideas of the Kingdom of God and of the work of the physician in its ethical aspects. With all his enthusiasm, Herr Strunz has shown commendable restraint in his statements, and has, wherever possible, allowed Paracelsus to tell his own story. The volume forms a worthy introduction to the new edition of Paracelsus.

CLARK S. NORTHUP.

CORNELL UNIVERSITY.

*Transitional Eras in Thought with Special Reference to the Present Age.*

By A. C. ARMSTRONG. New York, The Macmillan Co., 1904. — pp. xi, 347.

Professor Armstrong claims to furnish an enquiry into the development of western thought and culture suggested by analogies that exist between the age of the Sophists and the later eighteenth century in France. No attempt is made to analyze these two periods or to point out in detail the analogies of these two widely separated ages, but it is postulated that the conclusions from these analogies hold good for transitional eras generally. "The outcome of this inquiry is given in the present volume. The questions proposed are considered in the first instance from the standpoint of reflective thinking and with reference to its problems; of thought always, however, in its broader reaches, as connected with life, individual and social, as related to the state and bearing on civil government, as influencing conduct, and affecting not only theological beliefs, but religious practice" (Preface, p. viii). The feeling that we are dealing with an interpretation of an interpretation, in generalities covering a very large field, is unavoidable especially as the logical connection between the essays and lectures which constitute the volume does not profess to be close.

The first chapter bears the title of the book. Passing over the question of titular ethics, we may note that transitional eras are regarded as eras of scepticism or agnosticism, "abnormal periods in the intellectual development of the race," periods of theoretical and practical disorders, periods that have a definite rise and a definite termination. Such periods are the Sophistic, the post-Aristotelian, the decline of Rome, the centuries of transition from the medieval to the modern world, the eighteenth century, and the present age (pp. 6 f.). On such a showing, it might be enquired if

transition does not belong to the nature of thought and history ; also, if transitional eras are not after all but matters of emphasis from various points of view. But if we understand Professor Armstrong, he will not have it quite this way, — he will not use evolution as an eirenicon. In the second essay, "Typical Eras of Transition," we are told that reflective thought moves in cycles, "though it would undoubtedly be more agreeable if the fact were otherwise, that reflective thought may be taken in the sense of philosophy and that philosophy in turn may be technically defined as a rational system of fundamental principles." The union of this metaphor and this definition gives precisely the philosophic spirit in which the volume is written. While Professor Armstrong is clear that an abstract separation of science and philosophy, or science and faith, or science and theology, is artificial and unsound in theory and practice, he still holds, as regards science and philosophy, that "the two spheres of enquiry are radically different." How such a radical difference is possible, even on methodological grounds, is not apparent if, as in the chapter on "Science and Doubt" it is maintained, science encourages the belief in a *fixed order* of the world and supplies new motives or "*fresh reasons* for belief in God."

Chapter v, on "Thought and Social Movements," is replete with excellent observations and suggestions, but one might demur to such phrases as "economic, political, and other non-moral forces" (p. 225). In Chapter vi, "The Appeal to Faith," the author's continental rationalism comes to the front in the assertion that "of greater moment than the source of the appeal is the question of its legitimacy." The appeal to faith is regarded as jeopardizing the permanent for the satisfaction of present and pressing needs. We are called upon to endure the "pains and miseries" of doubt until "rational thought has rendered a deliberate, a complete, a final decision." This might pass for a new theory of eternal punishment. The splendid depravity of the pure rationalist's faith is well expressed in the last chapter. "Better, far better to grope in mental darkness, better to abandon any cherished conviction, no matter how bereft its loss may leave the soul, than to depart from this central principle of intellectual integrity, which is at the same time the condition of intellectual power." Is philosophy forced to contemplate such an alternative, to leave life and identity itself with abstractions, to exist in pain and misery until a body of fixed and unchangeable principles is established by rational thought?

But what is the outlook for our period of transition ; how are transitional periods brought to a close? Not by a return to doctrines in honor before the period of doubt began ; not by eclecticism, which has always proven a failure, but by a synthetic development "worked out by the activity of thought at large." Considering the number and extent of the transitional eras, we might ask when and where has this synthesis occurred in the past, and what are the rational grounds of expectation that it will occur in future time and space. Are we not looking in simple faith to a far off divine

event? Of all appeals to faith is not rationalism the most complete and arbitrary?

But it is time to make amends for our somewhat querulous attitude toward the form and spirit of the book. The treatise is well worth careful consideration both for its composition and content. If its judgments are a little too depressing at times, the brief analyses and reflections are often illuminating. As an example of the bookmaker's art the work cannot be too highly commended.

M. M. CURTIS.

WESTERN RESERVE.

*The Educational Theory of Immanuel Kant.* Translated and Edited with an Introduction by EDWARD FRANKLIN BUCHNER. Philadelphia and London, J. B. Lippincott Company, 1904. — pp. 309.

The present volume consists of an introduction and bibliography of eighty pages by Professor Buchner; Kant's Lecture-Notes on Pedagogy, one hundred and twenty-one pages; and sixty-six pages of selections bearing on Education from Kant's other writings.

Professor Buchner has been a student of Kant for a number of years and is well prepared to relate Kant's pedagogy to his philosophy so far as that can be done at all. He enters upon his task with sympathy and spirit, but there is nothing to lead one to suppose that his great admiration for Kant the philosopher has caused him to magnify unduly Kant's contribution to educational theory. Moreover, any fear that one may have had that a new idol was to be offered to school-masters, or a new school established, is quieted as one passes from page to page of Professor Buchner's judicious and discriminating account of Kant's pedagogical ideas.

Kant's Lecture-Notes, which constitute the second part of the volume, consist of an Introduction and the Treatise proper. The former is concerned mainly with a statement of the grounds of the necessity and possibility of education. The Treatise opens with a statement of the scope of education, which is either 'physical' or 'practical.' The editor makes the interesting observation that we have in this division a prophecy or reference back to the third antimony of the first Critique. 'Physical' relates to nature, while 'practical' relates to freedom.

In the first part of the Treatise, which deals with the physical care of children, Kant probably merely summed up the medical wisdom and enlightened popular opinion of his time regarding the proper care of children. As one runs through these paragraphs, one cannot help thinking of the lofty heights of the inquiry concerning the possibility of synthetic judgments *a priori*, in contrast with Kant's quaint and homely observations regarding the evils of over-swaddling and swinging cradles. If one were so inclined, one might draw a curious parallel of extracts from the *Critique of Pure Reason* and the *Lecture Notes on Pedagogy*, and get the impression that it is a far leap from philosophy to pedagogy. And yet it quickens our admiration for Kant's versatility to see how easily he passes from the severe

reflections of the critical philosophy to good advice concerning the proper method of feeding babies, and it affords a certain delight to be reminded that after all Kant was human and possessed of deep and abiding human interests.

The antithesis between nature and freedom appears again in a striking form when we come to his treatment of what would now be called intellectual education, which Kant refers to as the physical culture of the mind or soul, as contrasted with moral culture which aims solely at freedom.

On the basis of the 'faculty' psychology which he accepted and further developed, Kant established the theory of the formal discipline of the various faculties—memory, imagination, judgment, understanding, etc.

In the sections on Moral Education, Kant approaches more nearly the spirit and leading conceptions of the *Critique of Practical Reason*, and one catches something of the moral rigorism of that Critique. The words "duty," "obedience to law," "conscience," "reverence for the moral law," are written large. "Moral education consists in furnishing children with certain laws which they must follow exactly" (p. 190).

Six sections of the Treatise set forth briefly Kant's views concerning religious education. The Treatise concludes with sections on the pedagogy of adolescence, guidance of the sex instincts, etc.

Selections (sixty-six pages) and numerous footnotes from Kant's other writings (mainly the *Anthropology* and the *Critique of Practical Reason*), make a valuable addition to the Lecture-Notes, which constitute Kant's formal treatment of pedagogy.

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*La morale de Kant* (deuxième édition, revue et augmentée). Par ANDRÉ CRESSON. (Bibliothèque de philosophie contemporaine.) Paris, Félix Alcan, 1904.—pp. 212.

This work, the first edition of which appeared in 1897, consists of four approximately equal parts. In the first two, dealing respectively with the "form" and the "content of the moral life," the author gives a beautifully clear statement of Kant's theory. The third division is a "critical examination" of the system; while the fourth is devoted to the "historical position of the Kantian ethics."

In the critical part of the book, after noting the great influence which Kant actually exerts, Cresson indicates the reasons for relegating the system to a merely historical position. His arguments fall into two series, those attacking the logic of Kant's conclusions, and those directed against the fundamental principles themselves. Taking up the first class, the author finds that Schopenhauer's criticism, in which happiness is said to be the criterion for determining if a maxim can possess universal value, applies in particular cases but not to the doctrine as a whole. The derivation of appropriation, however, is incorrect because intelligible possession is an encroachment on the external freedom of other men. Moreover, to

limit the right of territory to the power of defence, is a confusion of right and fact. The doctrines of three separate powers in the state and of non-resistance to executive authority are not proved. In many other cases, Kant is not consistent with his principles when he attempts to deduce consequences, for example, in the explanation of the marriage relation, and in the treatment of physical perfection as a moral end.

In regard to the principles, Cresson finds still greater difficulties. The religious postulates become necessary hypotheses only because they depend upon the duty of realizing as far as possible the sovereign good. This, in turn, involves not only virtue but also happiness. But moral good is doing one's duty out of respect for the law. By what right can Kant make it a duty to aim at happiness as well as at virtue? Ethics, however, could dispense with the religious postulates if the doctrine of freedom were capable of proof. But even admitting noumenal freedom, it is only man as phenomenal who has consciousness of obligation, while it is the noumenal man who can believe himself free. And the idea of noumenal freedom implies two doubtful propositions, that obligation is a universal fact, and that it cannot be understood apart from freedom. The first proposition cannot be proved from experience. Kant's proof is fallacious because a speculative reason does not necessarily imply a practical reason as well. Two arguments are advanced in support of the second proposition. Obligation is said to presuppose freedom, because it is impossible for anything to be categorically ordered if the being in question is incapable of determining himself by simple examination of the categorical form of the order. Such a freedom, however, would be phenomenal not noumenal. Again, freedom is said to be the *ratio essendi* of obligation. The concept cause must, in Kantian philosophy, be limited to a phenomenal application. Kant rejected a material morality because he did not think it admitted of universal laws. It must be a science of happiness or of the good. He made happiness equal pleasure and thus reduced it to dependence upon individual sensibility. Moreover, there is no law of the production of pleasure. And a science of the good is not a real morality because man strives for happiness, not for the good. But, since happiness depends not upon the presence of pleasure but upon the state of desire, Kant does not show the impossibility of a material morality. Finally, he assumes, but cannot prove, that the categorical imperative is an immediate product of reason.

In the fourth part of the book, there is a comparison of the system with the ethics of Stoicism and of Christianity. It resembles the former in respect to conclusion, but not in respect to principles. It differs from the latter in regard to its criterion. The author concludes that obligation is conceivable when dependent upon human nature or upon divine command; but that an absolute obligation is an illogical conception.

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*The Philosophy of Auguste Comte.* By L. LÉVY-BRUHL. Authorized Translation. London, Swan Sonnenschein and Co., 1903. — pp. xiv, 363.

It was no less than the due of Professor Lévy-Bruhl's careful work that an English translation should follow rapidly upon the German version. The work of translation has been performed by Mme. de Beaumont-Klein with a general accuracy and felicity to which one is not accustomed in the majority of the English versions of French scientific and philosophical books. Indeed, with the trifling exception of one or two un-English constructions which have been allowed to remain by a palpable oversight (notably the rather irritating expression 'to substitute *to*'), there would be little to remind the reader that the book is not an original composition in English, but for the translator's odd practice of citing the works of Kant to which reference is made in the course of the exposition by the titles of their French translations. Mr. Frederic Harrison contributes a brief introduction, for the most part of a non-controversial character, though one is tempted to think that the statement on p. xii, that the "rational systematic foundation [of psychology] dates from Comte's suggestions," is a little more than generous towards Comte and a little less than just towards Herbert, Beneke, Fechner and other eminent psychologists whose inspiration, to say the least of it, was not drawn from the Positive Philosophy.

Of the merits of Professor Lévy-Bruhl's study of Comtism it would be superfluous to speak at length in a notice of the present translation. The acceptance his work has found both in France and in Germany has already stamped it as a valuable and faithful exposition of the central thought of the founder of Positivism. The author deserves special credit for the skill with which he has shown by historical evidence that the subsequent invention of the 'positive' policy and religion was implicit in Comte's scheme for the reorganization of social conditions from its first inception. After Professor Lévy-Bruhl's masterly treatment of this question, we ought to hear little more of the existence of two sharply opposed periods of Comtist thought. This is, it may be noted, a remark which has a very practical application. Professor Lévy-Bruhl seems to have made it quite clear that it is with the semi-Comtists, who accept the principles of the 'positive philosophy' but reject their logical development into 'positive' politics and religion, that the onus of exculpating themselves from the charge of inconsistency really lies. One may distrust the practical applications of the Comtist principles (I own that it is a distrust which I largely share myself), but it seems no longer possible with logical consistency to discriminate between the applications and the principles. If we reject the applications, we must henceforth be prepared to draw the inevitable inference that there is something unsound in the principles from which they flow.

Professor Lévy-Bruhl's thoroughly "objective" method does not to any considerable extent allow him to combine the part of critic with that of expositor. For my own part, I could have wished that he had seen his way

to modify the rigor of the rules which have guided his composition, at least here and there. I would gladly have learned from so competent an authority, for instance, what he takes to be the real logical worth of the evidence by which the "law of the three stages" is supposed to be established. But alas! the author contents himself with reproducing Comte's own estimate of the "law" and its foundation in fact, and does not allow us to conjecture what he thinks in his own heart of the matter. Similarly, the interesting exposition of Comte's views on the nature of mathematical truth would gain immensely if it were brought into contrast with subsequent theories of the nature of axioms and the character of formal demonstration. As it is, Professor Lévy-Bruhl's method inevitably has the drawback that it tends to produce the impression that the Comtist views which are being expounded are the only well thought-out and seriously defended philosophical views now in existence. But to complain of so admirable an exposition of a philosophy because it is not accompanied by an equally valuable critical examination savors something of hypercriticism.

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MONTREAL, CANADA.

*Saggio di uno studio sui sentimenti morali.* Dal GUGLIELMO SALVADORI.  
Firenze, Francesco Lumachi, 1903. — pp. viii, 138.

We have here a good example of the eclecticism which is almost all that most writers of ethical theory offer to their readers at the present day. It would be hard to say whether Dr. Salvadori owes more to Kant or to Spencer, to Schopenhauer or to Mill, and numerous are the names of other philosophers with which his pages are liberally strewn. He indeed acknowledges this eclectic spirit very frankly in his preface, and his position and method may best be indicated by quoting his own words: "The doctrine followed by me is a species of rational eudæmonism founded upon empiricism, in which, by an application of the theory of evolution, I endeavored to conciliate the empirical realism of the utilitarian school with the abstract idealism of the metaphysical school." To some minds the philosophical "olla podrida" which is the result of this synthesis of theories does not seem the most stimulating diet. But if there is not much that is novel or striking in the analysis here offered of the moral sentiments, or in the ethical doctrine based upon it, there is yet a good deal which is not only sound and just but clearly and convincingly presented.

E. RITCHIE.

HALIFAX, N. S.

The following books also have been received :

*The Evolution of Theology in the Greek Philosophers.* 2 vols. By EDWARD CAIRD. Glasgow, James MacLehose & Sons, 1904.—pp. xvii, 382 ; xi, 377. 14s.

*Evolution of Ethics, Vol. I: The Greek Philosophers.* By JAMES H. HYSLOP. New York, published for the Brooklyn Ethical Association by C. M. Higgins & Co., 1903.—pp. xxvi, 333.

*The Principles of Knowledge.* Vol. II. By J. E. WALTER. West Newton, Pa., Johnston and Penney, 1904.—pp. 331. \$2.00.

*Investigations of the Departments of Psychology and Education of the University of Colorado*, Vol. II, No. 1. Boulder, Colo., The University of Colorado, March, 1904.—pp. 51.

*Der Skeptizismus in der Philosophie.* Erster Band. Von RAOUL RICHTER. Leipzig, Verlag der Dürr'schen Buchhandlung, 1904.—pp. xxiv, 364.

*Geistige Strömungen der Gegenwart.* Von RUDOLF EUCKEN. Leipzig, Veit & Co., 1904.—pp. xii, 398. M. 8.

*Moralphilosophische Streitfragen. Erster Teil: Die Entstehung des sittlichen Bewusstseins.* Von GUSTAV STÖRRING. Leipzig, W. Engelmann, 1903.—pp. vii, 151.

*Griechische Philosophie im alten Testament.* Von M. FRIEDLÄNDER. Berlin, Georg Reimer, 1904.—pp. xx, 223. M. 5.40.

*Kant's Revolutionsprincip.* Von ERNST MARCUS. Herford, W. Menckhoff, 1902.—pp. xii, 181.

*Wissenschaftliche Beilage zum sechzehnten Jahresbericht (1903) der Philosophischen Gesellschaft an der Universität zu Wien.* Vorträge und Besprechungen. Leipzig, J. A. Barth, 1903.—pp. 139. M. 3.60.

*Einfluss der Geschwindigkeit des lauten Lesens auf das Erlernen und Behalten von sinnlosen und sinnvollen Stoffen.* By Von R. M. OGDEN. Leipzig, W. Engelmann, 1903.—pp. 103.

*Edgar Poe, sa vie et son œuvre.* Par ÉMILE LAUVRIÈRE. Paris, F. Alcan, 1904.—pp. xiii, 732. 10 fr.

*L'année philosophique*, 1903. Publiée sous la direction de F. PILLON. Paris, F. Alcan, 1904.—pp. 314. 5 fr.

*Essai sur les éléments et l'évolution de la moralité.* Par MARCEL MAUXION. Paris, F. Alcan, 1904.—pp. vi, 169. 2 fr. 50.

*Histoire du dogme de la divinité de Jésus-Christ.* Par ALBERT RÉVILLE. Troisième édition, revue. Paris, F. Alcan, 1904.—pp. xii, 184. 2 fr. 50.

*Le Néo-criticisme de Charles Renouvier.* Par E. JANSSENS. Paris, F. Alcan, 1904.—pp. viii, 318. 3 fr. 50.

*La fonction de la mémoire et le souvenir affectif.* Par FR. PAULHAN. Paris, F. Alcan, 1904.—pp. 177. 2 fr. 50.

*La dottrina della conoscenza nei moderni precursori di Kant.* Per E. TROILO. Torino, Fratelli Bocca, 1904.—pp. x, 304.

*La dottrina della conoscenza di Herbert Spencer.* Per E. TROILO. Bologna, Zamorani e Albertazzi, 1904.—pp. 46.



## NOTES.

### THE INTERNATIONAL CONGRESS OF ARTS AND SCIENCE.

As our readers are doubtless already aware, the International Congress of Arts and Science will take place in connection with the Universal Exposition at St. Louis, September 19 to 25. The general purpose of the Congress is to bring together a large number of specialists in all branches of science and thus aid the unification of knowledge. The plan is as follows : The whole field of knowledge has been divided into twenty-four departments, which are arranged in seven grand divisions. Each department, in turn, is divided into a number of sections. A speaker has been appointed for each division, and a chairman and two speakers for each department and for each section. After the formal opening of the Congress on Monday afternoon (September 19), will follow, Tuesday morning, the addresses on the main divisions of science and its applications, the general theme being the unification of each field. These will be followed by the two addresses on each of the twenty-four departments, one dealing with the fundamental concepts of the science, the other with its progress during the last century. The rest of the time will be devoted to the meetings of the various sections.

Philosophy occupies the position of Department 1 in the division of Normative Science. The speaker for the division is Professor Josiah Royce, of Harvard University. The chairman of the department is Professor Borden P. Bowne, of Boston University ; the speakers are Professors G. T. Ladd, of Yale, and G. H. Howison, of the University of California. The sections of philosophy are as follows :

*Section a. Metaphysics.* — Chairman : Professor A. C. ARMSTRONG, Wesleyan University. Speakers : Professor A. E. TAYLOR, McGill University, Montreal ; Professor ALEXANDER T. ORMOND, Princeton University.

*Section b. Philosophy of Religion.* — Chairman : Professor THOMAS C. HALL, Union Theological Seminary, N. Y. Speakers : Professor OTTO PFLEIDERER, University of Berlin ; Professor ERNST TROELTSCH, University of Heidelberg.

*Section c. Logic.* — Chairman : Professor GEORGE M. DUNCAN, Yale University. Speakers : Professor WILHELM WINDELBAND, University of Heidelberg ; Professor FREDERICK J. E. WOODBRIDGE, Columbia University.

*Section d. Methodology of Science.* — Chairman : Professor JAMES E. CREIGHTON, Cornell University. Speakers : Professor WILHELM OSTWALD, University of Leipzig ; Professor BENNO ERDMANN, University of Bonn.

*Section e. Ethics.* — Chairman : Professor GEORGE H. PALMER, Harvard University. Speakers : Professor WILLIAM R. SORLEY, University of Cambridge ; Professor PAUL HENSEL, University of Erlangen.

*Section f. Aesthetics.* — Chairman : Professor JAMES H. TUFTS, University of Chicago. Speakers : Mr. HENRY R. MARSHALL, New York City ; Professor MAX DESSOIR, University of Berlin.

Psychology forms Department 15 in the Division of Mental Science, of which President G. Stanley Hall is the speaker. The Chairman of the Department is Noah K. Davis, of the University of Virginia, and the speakers, Professor J. Mark Baldwin, of Johns Hopkins University, and Professor James McK. Cattell, of Columbia. The Sections are as follows :

*Section a. General Psychology.* — Chairman : Professor CHARLES A. STRONG, Columbia University. Speakers : Professor HARALD HOFFDING, University of Copenhagen ; Professor JAMES WARD, University of Cambridge, England.

*Section b. Experimental Psychology.* — Chairman : Professor EDWARD A. PACE, Catholic University of America. Speakers : Professor HERMANN EBBINGHAUS, University of Breslau ; Professor EDWARD B. TITCHENER, Cornell University.

*Section c. Comparative and Genetic Psychology.* — Chairman : Professor EDMUND C. SANFORD, Clark University, Worcester, Mass. Speakers : Principal C. LLOYD MORGAN, University College, Bristol ; Professor MARY W. CALKINS, Wellesley College.

*Section d. Abnormal Psychology.* — Chairman : Professor MOSES ALLEN STARR, Columbia University. Speakers : Dr. PIERRE JANET, Professor at the Sorbonne, Paris ; Dr. MORTON PRINCE, Boston.

Dr. W. B. Elkin has been appointed acting assistant professor of philosophy at the University of Missouri.

Dr. Thaddeus L. Bolton has been appointed professor of psychology at the University of Nebraska.

Mr. W. M. Steele, late assistant in the Yale psychological laboratory, has been appointed professor of philosophy in Furman University, Greenville, S. C.

Dr. Dickinson S. Miller, of Harvard University, has been appointed lecturer in philosophy at Columbia.

Professor I. Woodbridge Riley has resigned his professorship of philosophy at the University of New Brunswick ; he will be succeeded by Dr. Stewart Macdonald, who was last year Fellow in Philosophy at Cornell University and received his doctorate from that institution.

Dr. C. T. Burnett, of Harvard, has been elected professor of philosophy at Iowa College, Grinnell, Iowa.

Professor William Turner, of St. Paul Seminary, St. Paul, Minn., has been granted a year's leave of absence which he will spend in Europe gathering material for a study of the beginnings of scholasticism.

Dr. Nathan E. Truman, Ph.D. (Cornell, 1902), has been appointed assistant professor of Greek and philosophy at the University of South Dakota.

We give below a list of the articles, etc., in the current philosophical journals :

THE PSYCHOLOGICAL REVIEW, XI, 4-5 : *L. Pearl Boggs*, An Experimental Study of the Physiological Accompaniments of Feeling ; *T. H. Haines* and *A. E. Davies*, The Psychology of Aesthetic Reaction to Rectangular Forms ; *R. B. Perry*, Conceptions and Misconceptions of Consciousness ; *W. F. Dearborn*, Retinal Local Signs ; Studies from the California Psychological Laboratory : VI. *Knight Dunlap*, Some Peculiarities of Fluctuating and of Inaudible Sounds ; *H. B. Alexander*, Some Observations on Visual Imagery ; *C. Caverno*, Incipient Pseudopia.

INTERNATIONAL JOURNAL OF ETHICS, XIV, 4 : *H. M. Thompson*, Moral Instruction in Schools ; *J. H. Hyslop*, Has the Universe an Intelligent Background and Purpose ? *C. A. Barnicoat*, The Government Prison Settlement at Waitapu, New Zealand ; *Chester Holcombe*, The Moral Training of the Young in China ; *F. M. Stowell*, The Practical Reason in Aristotle ; *Earl Barnes*, Student Honor : A Study in Cheating ; *Gustav Spiller*, An Examination of the Rationalistic Attitude ; *F. H. Giddings*, The Heart of Mr. Spencer's Ethics ; Book Reviews.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XV, 2 : *L. D. Arnett*, The Soul—A Study of Past and Present Beliefs ; *C. Spearman*, General Intelligence Objectively Determined and Measured ; Literature.

THE HIBBERT JOURNAL, II, 4 : *E. S. Talbot*, Sir Oliver Lodge on 'The Re-interpretation of Christian Doctrine' ; *A. C. Bradley*, Hegel's Theory of Tragedy ; *T. B. Saunders*, Herder ; *W. R. Sorley*, The Two Idealisms ; *S. H. Mellone*, Present Aspects of the Problem of Immortality ; *W. F. Cobb*, L'hypocrisie biblique britannique ; *Wm. Knight*, The Value of the Historical Method in Philosophy ; *St. George Stock*, The Problem of Evil ; *C. M. Bakewell*, Art and Ideas ; Discussions and Reviews.

THE PSYCHOLOGICAL BULLETIN, I, 7-8 : *Adolf Meyer*, A Few Trends in Modern Psychiatry ; *A. Hoch*, A Review of Psychological and Physiological Experiments Done in Connection with the Study of Mental Diseases ; *Adolf Meyer*, Recent Literature in Neurology and Psychiatry ; New Books ; Notes ; Journals.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, I, 11 : *C. L. Herrick*, Fundamental Concepts and Methodology of Dynamic Realism ; *Warner Fite*, Herbert Spencer as a Philosopher ; Discussion ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

I, 12 : *H. R. Marshall*, Of Neururgic and Noetic Correspondence ; *C. E. Magnusson*, Dimensional Equations and the Principle of the Conservation of Energy ; Discussion ; Societies ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

I, 13: *G. A. Tawney*, Utilitarian Epistemology; *H. W. Stuart*, The Need of a Logic of Conduct; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 14: *H. R. Marshall*, Of Simpler and More Complex Consciousnesses; *C. L. Herrick*, The Dynamic Concept of the Individual; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK, CXXIV, 1: *L. Busse*, Immanuel Kant; *P. Beck*, Erkenntnistheorie des primitiven Denkens (Schluss); *G. v. Glasenapp*, Der Wert der Wahrheit (Schluss); *Hans Schmidkunz*, Neues von den Werten; *Georg Ulrich*, Bewusstsein und Ichheit; *Erich Adickes*, Bericht über philosophische Werke, die in englischer Sprache in den Jahre 1897 bis 1900 erschienen sind; *G. Kohfeldt*, Ein bisher noch ungedruckter Brief Kants v. J. 1790. Mit Nachschrift des Herausgebers; Recensionen.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE UND SOZIOLOGIE, XXVIII, 2: *Demetrius Gusti*, Egoismus und Altruismus, II; *Franz Oppenheimer*, Ein neues Bevölkerungsgesetz; *Cay von Brockdorff*, Schopenhauer und die wissenschaftliche Philosophie, II; *Paul Barth*, Herbert Spencer und Albert Schäffle; Besprechungen; Notiz.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE, X, 4: *J. Pollak*, Entwicklung der arabischen und jüdischen Philosophie im Mittelalter, II; *E. Bickel*, Ein Dialog aus der Akademie des Arkesilas; *P. Ziertmann*, Beiträge zur Kenntnis Shaftesburys; *K. Worm*, Spinozas Naturrecht; *C. Sauter*, Die peripatetische Philosophie bei den Syrern und Arabern; *G. Jaeger*, Locke, eine kritische Untersuchung der Ideen des Liberalismus und des Ursprungs nationalökonomischer Anschauungsformen (Schluss); Jahresbericht.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, IX, 4: *Kurt Geissler*, Ist die Annahme von Absolutem in der Anschauung und dem Denken möglich? *David Koigen*, Die Religionsidee; *H. Bergson*, Die französische Metaphysik der Gegenwart. Aus dem Nachlass von *A. Gurewitsch*; *B. Weiss*, Gesetze des Geschehens; Jahresbericht.

X, 2: *Jonas Cohn*, Psychologische oder kritische Begründung der Ästhetik? *Vincenzo Allara*, Sulla quistione del Genio; *A. Müller*, Die Eigenart des religiösen Lebens und seiner Gewissheit; Jahresbericht.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, XXXV, 2: *W. Sternberg*, Zur Physiologie des süßen Geschmacks; *F. Kiesow*, Nochmals zur Frage nach der Fortpflanzungsgeschwindigkeit der Erregung im sensiblen Nerven des Menschen; *W. Schoen*, Paradoxes Doppelsehen; Literaturbericht.

XXXV, 3-4: *Alfred Borschke*, Über die Ursachen der Herabsetzung der Sehleistung durch Blendung; *Otto Lipmann*, Die Wirkung der einzelnen Wiederholungen auf verschieden starke und verschieden alte Assoziationen; *F. Kiesow*, Über die Tastempfindlichkeit der Körperoberfläche für punktuelle

mechanische Reize (Nachtrag); *F. Kiesow*, Zur Kenntniss der Nervenendigungen in den Papillen der Zungenspitze; *H. Beyer*, Nasales Schmecken; *Wilibald Nagel*, Einige Bemerkungen über nasales Schmecken; Literaturbericht.

XXXV, 5: *J. Richter* und *H. Wamser*, Experimentelle Untersuchung der beim Nachzeichnen von Strecken und Winkeln entstehenden Grössenfehler; *Fritz Weinmann*, Zur Struktur der Melodie; *E. Dürr*, Erster Kongress für experimentelle Psychologie in Deutschland; Literaturbericht.

JOURNAL DE PSYCHOLOGIE NORMALE ET PATHOLOGIQUE, I, 4: *F. Paulhan*, Histoire d'un souvenir; *Drs. Marie et Viollet*, Spiritisme et folie; *J. Lachelier* et *D. Parodi*, A propos de la perception visuelle de l'étendue; *Ch. Féré*, Sur une forme d'impuissance sexuelle; Bibliographie.

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## THE PHILOSOPHICAL REVIEW.

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### THE PRESENT PROBLEMS OF GENERAL PSYCHOLOGY.<sup>1</sup>

“THE psychology of our day needs reforming from its very foundations,” said Professor Lipps not very long ago, and indeed proposals for its radical reconstruction are being offered us on every side. Psychology must be thoroughly atomistic and structural, says one: it should be altogether functional, says another. For some it is the central philosophical discipline; for others it is but a department of biology. According to one view, it is merely a descriptive science; according to another, it is explanatory as well. Plainly, then, one of the present problems of psychology is the definition of psychology itself. Yet even this has been denied. “It is preposterous at present to define psychology,” says a recent critic of such an attempt on my part, “preposterous to define psychology save as Bleck long ago defined philology: *es ist was es wird*. It is in a process of rapid development. It has so many lines and departments that if it could be correctly described to-day, all the definitions might be outgrown to-morrow.”<sup>2</sup> There may be a grain of truth in this somewhat extravagant contention. *Ehe es einen guten Wein giebt, muss der Most sich erst toll gebärden*, it has been said. But surely if we could define what is common ground for us all to-day, we might leave to-morrow to take care of itself. This common ground we call ‘General Psychology,’ and the assumption upon which, I take it, we are here proceeding is that the concepts of

<sup>1</sup> Read before the Section of General Psychology of the Congress of Arts and Sciences, held at St. Louis, Sept. 19-26, 1904.

<sup>2</sup> *Am. J. of Psy.*, Vol. XV, p. 295.

this general psychology are presupposed in the many special departments which we speak of as experimental (or physiological), comparative, pathological, etc., and further that these concepts will be presupposed in whatever new developments of the science the future may have in store.

To ascertain, describe, and analyze the invariable factors of psychical life, consciousness, or immediate experience is, — it will I presume be agreed, — the main concern of general psychology. "I find myself in a certain situation, which affects me pleasantly or painfully, so that in the one case I strive to prolong the situation, and in the other to escape from it." So in ordinary language we might any of us describe a moment of our own experience. How much of this is essential? If we are to leave any place for genetic or comparative psychology, it is said, we must answer: What is found as distinct from the finding, in other words, a self or subject cognitively and conatively related to an objective situation in which it is interested. Such subject we should say was conscious, but not self-conscious. In order to find myself feeling, in order to *know* that I feel, I must feel. But I may feel without knowing that I feel. In order to know that I am, I must be, but I may be without having any knowledge of that fact. In short, the advance to self-consciousness is said to presuppose mere consciousness. Here, then, the irreducible minimum is the functional relation of subject and object just mentioned, a duality in which the subject knows, feels, and acts, and the object is known and reacted to. But at this *lower* level of experience, at which the subject's functions are not immediately known, have we not a relation with only one term? And that is surely a contradiction. At the higher level where consciousness of self is present, — where, that is to say, the subject and its functions are known, — we have indeed two terms, but both are then objective, for self as known is certainly objective. We have two terms now, but so far the essential distinction of subject and object can no longer be maintained. So far as *both* terms are known or objective the distinction lapses, it is allowed; but even in self-consciousness the 'I knowing' — Kant's pure Ego — is still distinct from 'the Me known' — Kant's empirical or phe-



nomenal Ego. Very good, but then in that case, it is rejoined, we are back at the original difficulty. You talk of this duality of experience, but it is still, it seems, at bottom a duality with only one known term. At the best your pure Ego or subject is a metaphysical notion of a soul or something that lies hopelessly beyond any immediate verification.

Now this disjunction: Either *in* consciousness, *i. e.*, 'content of consciousness,' and then objective, phenomenal, presentational, ultimately sensational; or *out of* consciousness, and then metempirical, hypothetical, and unverifiable, — this disjunction, I say, constitutes a difficult problem, which at the present time demands the most thoroughgoing discussion. But instead of thinking out the problem, psychologists seem nowadays content for the most part to accept this disjunction. Some, whom we may call 'objective' psychologists, also known as 'presentationists,' confining themselves, as they suppose, to what is empirically 'given,' — to whom 'given' and how received, they do not ask, — regard the facts of experience as a sort of atomic aggregate completely dominated by certain quasi-mechanical laws. In conformity to these laws, — laws, that is, of fusion, complication, association, inhibition, and the like, — the elements of the so-called 'contents of consciousness' differentiate and organize themselves; and what we call the duality of subjective and objective factors is the result. The Herbartian psychology, if we leave its metaphysical assumptions aside, as we well may, is still the classic example of this type. This is the psychology which most easily falls into line with physiology, and is apt in consequence to have a materialistic bias. Another school, which may we call 'subjectivist,' or perhaps 'idealist,' recognizes indeed the necessity of a subject *from the outset* whenever we talk of experience, but recognizes it, not because the actual existence of this subject is part of the facts, but because psychical phenomena, it is said, are unthinkable without a substratum to sustain their unity. This is the psychology that still — notwithstanding the brave words of Lange — cannot get on without a soul. I call it 'idealist,' because it tends to treat *all* the facts of immediate experience as subjective modifications, after the fashion of Descartes, Locke, and Berke-

ley. The hopeless *impasse*, into which the problem of external perception leads from this standpoint, is a sufficient condemnation of subjective idealism. Further, — and this I take to be the main lesson of Kant's 'Refutation of Idealism,' — such bare unity of the subject will not suffice to explain the unity of experience. In a chaos of presentations, without orderly sequence or constancy, we might assume a substantial unity of subject ; but it would be of little avail, as the facts of mental pathology amply show. Returning now to the presentationist standpoint, — the one obvious objection to that is its incompleteness. As I have elsewhere said<sup>1</sup>, it may be adequate to nine tenths of the facts, or — better perhaps — to nine tenths of each fact, but it cannot either effectively clear itself of, or satisfactorily explain, the remaining tenth. No one has yet succeeded in bringing all the facts of consciousness, as Professor James thinks we may, under the simple rubric: "Thought goes on." Impersonal, unowned experience, a mere *Cogitatur*, is even more of a contradiction than the mere *Cogito* of Descartes.

But of late there have been attempts to mediate between these antitheses, so that, to use Hegelian phraseology, their seeming contradiction may be *aufgehoben*. Noteworthy among such attempts is the so-called 'actuality theory' of Wundt, already more or less foreshadowed by Lotze. There is, I fear, a certain vagueness in Wundt's view, due perhaps to his general policy of non-committal ; at any rate, I am not sure that I understand him. I prefer, therefore, to suggest what seems to me the true line of mediation in my own way. A relation in which only one term is known, it is said, is a contradiction. Yes, for knowledge it certainly is. But the objection only has force if we confound experience with knowledge, as the term 'consciousness' makes us only too ready to do. If, however, experience be the wider term, then knowledge must fall within experience and experience extend beyond knowledge. Now we may perhaps venture without fear of metaphysical cavil, to maintain that being is logically a more fundamental concept than knowing. Thus I am not left merely to infer my own being from my knowing in the fashion of Des-

<sup>1</sup> "Modern Psychology," *Mind*, N. S., Vol. II, p. 80.

cartes's "Cogito, *ergo* sum." Nor would I even say that the being supposed to be known, the object, is in fact only inferred, as Descartes was driven to suppose. Objective reality is immediately 'given' or immediately there, not inferred. But now I am not going on to say that the subjective reality also is immediately given, is immediately there, as Hamilton and others have done. There is no such parallelism between the two: that would not end our quest, but only throw us back. *Es giebt*, you say: yes, but to whom given: *cui bono*? The dative relation is not a commutable one. The subjective factor in experience then is not *datum* but *recipiens*: it is not 'there,' but 'here,' whereto 'there' is relative.

And now this receptivity is no mere passivity. It is time to discard the ancient but inappropriate metaphor of the *stylus* and *tabula rasa*. The concept of pure passivity or inertia is a convenient analytical fiction in physics, but we find no such reality in concrete experience. Even receptivity is activity, and though it is often non-voluntary, it is never indifferent. In other words, not mere receptivity but conative or selective activity is the essence of subjective reality; and to this, known or objective reality is the essential counterpart. Experience is just the interaction of these two factors, and this duality is a real relation antecedent to, but never completely covered by, the reflective knowledge we come to attain concerning it. It cannot be resolved either into mere subjective immanence nor into mere objective position. The identification of its two terms equally with their separation altogether transcends experience; their identification is sometimes said to lead to the Absolute, and their separation, we may safely say, leads to the absurd. A subject *per se* and an object *per se* are alike not so much unknowable as actually unreal. A psychical substance, to which experience is only incidental, is an abstract possibility of which psychology can make no use; but for every experience an actual subject to which it pertains is essential, so surely as experience connotes presentation and feeling and impulse. If we are to be in downright earnest with the notion of substance, we shall probably find that Spinoza was right, and there is only one. But though we stop short of regarding the subject

of experience as a substance, it is, I think, a mistake to speak of it as a phenomenon. If the actual subject of experience is to be a phenomenon, it must be such for some other experience; and one experience may, of course, have phenomenal relations to another. But as I cannot be my own shadow, so there is a like inconvenience — as Kant humorously put it — in my being wholly the subject and yet solely the object in my own experience. Just as little as we can identify centre and circumference, organism and environment, because the one implies the other: just so little can subject and object be identified, because the one implies the other. The real contradiction then lies not in accepting, but in denying, this dual relation, one term of which is *being* subject and the other a certain continuity of *known* object. For psychology the being of this subject means simply its actual knowing, feeling, and striving as an Ego or Self confronted by a counterpart non-Ego or not self: the two constituting a universe of experience, in which, as Leibniz held, activity is the fundamental fact, — *am Anfang war die That*.

But this subjective activity itself furnishes us with another problem, and one of the acutest at the present time. Bradley some years ago went so far as to call the existing confusion concerning this topic the scandal of psychology. Quite recently, however, views have been propounded that make the old confusion worse confounded. One distinguished psychologist, whilst seemingly accepting entirely an analysis of experience such as I have just endeavored to sketch and admitting its validity within the moral sciences, or *Geisteswissenschaften*, as he terms them, nevertheless regards subjective activity as lying altogether beyond the purview of psychology, because it can neither be described nor explained. Another, starting from a diametrically opposite standpoint, finds subjective activity, or psychical energy,<sup>1</sup> essential to the explanation of any and every experience, but finds it actually experienced in none. According to his view, it belongs entirely to the unconscious processes underlying the contents of consciousness or experience: in these contents as such there is no working factor, but only the symptoms or phenomenal accompani-

<sup>1</sup> Lipps distinguishes between *Kraft* and *Energie*.

ments of one. A '*feeling* of activity,' he allows, has place within those contents; but it is only a feeling, it is not activity. A necessity of thought, he holds, constrains us to affirm the existence of real psychical activity, power or energy; though we never actually experience it, because it resides ultimately in the 'world-ground,' and how experience proceeds from this is ineffable (*unsagbar*). Yet a third psychologist thinks that he has disposed of subjective activity by maintaining that introspection discovers no causal laws. In agreement with the first author mentioned and in opposition to the second, he regards all psychological connexions as really psychophysical. Efficaciousness, as he calls it, he derides as a 'mere bauble.' The vitally important thing in experience is a certain teleological quality or significance which the talk about 'capacity to accomplish the causal production of deeds' does but obscure. Self-activity he proposes to regard, "from the purely psychological point of view," as the conscious aspect or accompaniment of a collection of tendencies of the type which Loeb has called '*tropisms*,' or movements "determined by the nature of the stimulus and of the organism." In brief, we have in three recent writers of mark three conflicting positions:

- (1) Subject activity is a fact of experience, but psychology cannot deal with it, because it is neither describable nor explicable.
- (2) Subject activity is not a fact of experience, but it is a transcendent reality without which psychology would be impossible.
- (3) Subject activity is neither phenomenal nor real: the apparent '*originality*' or '*spontaneity*' of the individual mind is, for psychology at any rate, but the biologist's '*tropisms*.'

I cannot attempt fully to discuss these views here, but I trust I have described them sufficiently to show that the scandal of which Bradley complained is still a stumbling-block in the way of psychological advance. On one or two remarks I will however venture. In the first place these authors seem entirely to ignore the distinction between immanent action or doing and transcendent action or effectuating: the former directly implies an agent only, the latter a patient also. Nor do these authors appear to distinguish between the so-called logical principle of causation or natural uniformity and the bare notion of cause,

*Ursache*, as active. They must of course be well aware that these distinctions exist; and we are therefore left to conclude that they regard them as invalid; for otherwise these distinctions have surely an important bearing on the problem before us. The so-called logical—I should prefer to say epistemological—principle of causal connexion has two forms: (i) Given a certain complex of conditions *A*, then a certain event *B* must follow, as we say in the more empirical sciences; and (ii) The cause is quantitatively equivalent to the effect, as we say in dynamics. Into neither of these does the notion of activity enter at all: the inductive sciences find no place for it and the exact sciences have no need of it. “Causation,” as one of these writers says, “‘marries only universals’ . . . and universals conceived as the *common* objects of the experience of many.” On this point they seem to be all agreed, and we also shall probably assent. Very good; but if so, they argue, must you not admit that this causation has no place in individual experience? Granted, but then comes the question: Does the fact that I find no laws within my individual experience, but only a succession of unique events, *eo ipso* preclude me from experiencing immanent activity, and convict me of contradiction when I talk of myself as a real agent or *Ursache*? Quite the contrary, as it seems to me: precisely because I am an individual agent or Ego with an equally individual counterpart Non-Ego is my experience unique: were it in fact from end to end but the outcome of universal laws or deducible from such, as the psychophysical theory implies, then certainly all efficient activity would be as absent from it as from other mere mechanisms. It is just this uniqueness and seeming contingency, which defy mechanical explanations, that conative activity explains. True, this activity is itself indescribable and inexplicable in other terms. But to say this is only to say that it is our immediate actual being, that we cannot get behind or beyond it, cannot set it away from us or project it.

To admit this *eigene Aktivität* as *das wirklich Wirksame, die zentrale Innerlichkeit* that for immediate experience leaves ‘*kein unerklärter Rest*,’ as the first of these writers does, and yet to eliminate it from psychology in order with the help of psycho-

physics to convert psychology into a natural science, is surely a desperate procedure, the motives for which it is hard to conjecture. To turn '*geistige Aktivität*' out of the science, in order to separate it from the *Geisteswissenschaften*, is like giving a dog a bad name, taking away his character, in order to hang him.

With the views of the second writer I have personally much more sympathy. There is here no heroic inconsequence to bring psychology into line with mechanism at any cost; but a serious metaphysical problem, perhaps the most fundamental of all problems, that, namely, of the Absolute One and the Finite Many, seems to have biased him in the treatment of the problem before us. For the Finite Many he conceives that we are necessitated to postulate a transcendent 'real' as *substratum*, and so they figure as phenomena, dominated and determined by the law of causality, and this in precisely the same sense, whether they are psychical or physical. For the Absolute One, the World-ground, however, there is no transcendent, no substratum; here the causal becomes the teleological, and we have pure actuality. The Absolute, in short, is a World-consciousness. But, if so, we naturally ask at once, must there not be a correspondence between this absolute consciousness and phenomenal consciousness which does not exist between it and the physical phenomena, over which the law of causality is supreme? Or, if there is no such correspondence, if what the author calls the *voluntarisch-teleologischer Standpunkt* has no place in finite experience, whence do we derive this concept of actuality, which in absolute purity is predicated of the One? I admit the utter disparity between the finite and the Infinite, but may there not be degrees of reality, and may not the continuity of these be infinite? Such degrees of reality our author recognizes. He says: "Je mehr Realität, d. h. je mehr Kraft, Reichthum und innere Einstimmigkeit das einzelne Individuum hat . . . desto mehr wird [es] von seiner Vereinzelung befreit. Es wird zu jenem 'überempirischen und überindividuellen.' Dies ist nicht ein 'Sichverlieren' derselben in Welt-ich, sondern ein Finden des wahren oder positiven Ich in ihm." If this progressive development is to mean anything, it surely must imply an experienced efficiency and not merely a

higher reality, of which there is no immediate experience, — which in truth is never ‘found.’ How there can be a finite actuality, which is yet not pure actuality ; in other words, how I can be for myself more than phenomenon and yet not absolute reality, we cannot say. But our author, as I have already observed, acknowledges that even the procession of phenomena from the Absolute is ‘*unsagbar*.’ But surely, if either way the problem of the One and the Many is insoluble, it is better to accept that alternative which does not seem in direct conflict with our actual experience.

The third writer too finds a justification for his position in philosophical views to which he refers as “elsewhere in part already set forth.” I do not propose to follow him in search of these, but only to question the possibility of explaining the initiation of new forms of behavior by means of the biological doctrine of tropisms. This question leads us to a new problem. The idea of tropism is due, I believe, to the botanists. Certain plants flourish only in the full sunshine, others only in the deepest shade : the first the botanist would call positively, the second negatively, heliotropic. In like manner certain animals seek the light while others shun it ; and their behavior Loeb would describe in the same fashion, that is to say, as due respectively to positive and negative heliotropisms : and, like some botanists, he looks solely to the physical and chemical properties of the several protoplasms concerned to explain this difference. Instincts, again, are for him but complexes of tropisms ; and so throughout. The striking diversities in the habitats and behavior of animals, equally with the like diversities among plants, he regards as resting at bottom on the physics of colloidal substances. A satisfactory development of this branch of physics Professor Loeb is expecting “in the near future.” I very much doubt if there is a single physicist who shares his confidence, and shall be surprised if this physics of the near future does not prove to be that sort of hylozoism which Zöllner and Haeckel have championed, and which Kant long ago declared would be the death of natural philosophy or physics proper. For hylozoism in so many words attributes to matter a certain sensibility incompatible with the absolute inertia essential to matter in the proper sense of the



word. Such sensibility implies a psychical factor operative throughout organic life; whereas, if biology is to be reduced to physics in the strict sense, such a factor is then and there altogether excluded. Philanthropy and misanthropy, likes and dislikes of all sorts, everything we call conative in short, will fall into line with other physical 'polarities' or tropisms, and psychology and biology—so far from working together—must each give the other the lie. Either way, then, it is important to consider how far psychology can explain the bewildering variety of forms under which life now appears. Structure and function are undoubtedly correlative, but which is the determining factor? At one extreme we have the answer suggested by the conception of *ἐντελέχεια* or formative principle, which we find in Aristotle, Leibniz, Lamarck, and other vitalists; at the other we have the answer of Lucretius, Loeb, and the neo-Darwinians. According to the one, function is primary and determines structure; according to the other, structure is primary and determines function. In the first, what I have called subjective selection, the selection of environment by the individual would be important; in the other, natural selection and 'the physics of colloidal substances' would be everything. For the one, subjective initiative will be real and effective; for the other, it will be illusory and impotent. Among ourselves subjective selection shows itself in the choice of a career, and in the acquisition of the special knowledge and skill which entitle a man to be called an expert or a *connoisseur*. It would surely be regarded as extravagant to maintain that human proficiencies in all their manifold variety were the outcome solely of physical conditions and natural selection, and that they were altogether independent of subjective initiative and perseverance. The spur of competition may be necessary to urge a man to seek new openings and to try new methods, but the enterprise and the inventiveness are due, none the less, to his spontaneity and originality. Now it seems to me reasonable to assume that the like holds in varying degree among lower forms of life, that here too it is through subjective selection that the poet's words are fulfilled:

"All nature's difference keeps all nature's peace."

So, and not by calling the one negatively, the other positively heliotropic, I would explain the fact that the owls and the moths, for example, are active by night, while the hawks and the butterflies are active by day. And similarly in innumerable other cases. No doubt plant life raises a difficulty. Here there is a diversity at least as great as that which we find in the animal world, and here again there is as striking a differentiation of special environment. Can we refer this to anything psychical or subjective, or must we here at last fall back solely on 'fortuitous' variation of structure and natural selection? This is a perplexing and in some ways a crucial question. On the whole, it seems safest to assume with Aristotle a certain continuity between life and mind, the psychical and the organic. Anyhow, the higher we ascend the scale of life, the more the concept of subjective initiative and adaptation forces itself upon us; and, till the chemical theory of life which Professor Loeb awaits is forthcoming, the principle of continuity forbids us to dogmatize as to the limits within which subjective selection is confined and beyond which tropisms take the place of conations.

Passing now from the subjective factor in experience to the objective factor, we are confronted by a new problem in the recrudescence of atomistic or sensationalist psychology that we find amongst us to-day. "Atomism in psychology must go wholly," it was said some twenty years ago by a writer much given to *dicta*. But atomism has not gone; on the contrary, in certain quarters it is advocated more strenuously than ever. It is easy to see the causes for this, but hard to justify it. These causes lie partly in the influence of analogy, partly in a natural tendency to imitate. The order of knowledge, it is said, is from *exteriora* to *interiora*, and accordingly the whole history of psychology and its entire terminology is full of analogies taken from the facts of the so-called external world. The ancient *species sensibiles*, the impressions of Locke and Hume, the adhesions, attractions, and affinities, in a word, the mental chemistry of Brown and Mill, are instances of this. Again, the tendency of the moral sciences to imitate the methods of the more advanced physical sciences is shown in the dominance of mathematical

ideals from Descartes up to Kant, as in the *Ethics* of Spinoza, the theological demonstrations of Clarke, and the formalism of the Leibniz-Wolffians. When a gifted mathematician and physicist in our own day, W. K. Clifford, turned his attention to the facts of mind, he at once broached a psychological atomism of the extremist type. It is indeed only natural that the wonderful grasp which the atomic theory has given of the physical world should have provoked anew the emulation of psychologists to proceed on similar lines. Moreover the structure of the brain — when superficially regarded as a congeries of isolated neurones — encourages a like attempt. And yet the moment we regard the brain functionally — and not the brain merely, but the whole organism — the atomistic analogy fails us at once. Functionally regarded, the organism is from first to last a continuous whole; phylogenetically and ontogenetically it is gradually differentiated from a single cell, not compounded by the juxtaposition of several originally distinct cells. There is in this respect the closest correspondence between life and mind; one of the best things Herbert Spencer did was to trace this correspondence in detail. If a chemical theory of life is for the present improbable, a quasi-chemical theory of mind is more improbable still. The individual subject we must regard — so it seems to me — as *en rapport* with a certain objective continuum characterized by indefinite plasticity, or possibility of differentiation, retentiveness, and assimilation. The progress of experience, alike in the individual life and in the evolution of mind as a whole, may then be described as one of continuous differentiation or specialization; diffused and simple changes of situation giving place to restricted and complex ones, vague presentations to definite ones. But under all, the objective unity and continuity persists, and we never reach a mere aggregate or manifold of chaotic particulars, such as Kant assumed to start with.

Yes, but to describe experience as progressive differentiation and organization on more or less biological lines is mere natural history, the psychological atomist objects: it is only description, not explanation. But then psychology, or more exactly its subject-matter, individual experience, *is* historical; that is to say,

though psychology is not biography but science, does not narrate but generalizes, yet its generalizations all relate to individual experience as such ; and here what we may call the historical or biological categories, — teleological categories, in other words, — are surely supreme. It is remarkable how long the physical or atomistic bias has prevailed in human thought, but happily at length modern ideas of evolution have secured a juster recognition of the claims of the historical : I may refer in passing to the admirable philosophical expositions of these claims which we owe to Professors Windelband and Rickert. And surely it may be contended that an orderly and coherent account of the development of individual experience, — one exhibiting its *rationale*, so to speak, — is better entitled to be called explanatory than any theory can be that sets aside the essential features of experience as life in order to make room for the categories of mechanism and chemism, which are inadequate and inappropriate to the living world. As I have just said, such attempts are natural enough, but they are also naïve, and their inaptness becomes increasingly manifest as reflection and criticism deepen. At the outset men talk of thoughts as if they were isolated and independent existences, just as they talk of things ; nay, ideas are then but off-prints or copies of things. Locke's 'simple ideas,' for example, are pretty much of this sort : as simple and single they come, and as such they are retained save as they may be afterwards variously compounded and related. True, for Locke such compounding and relating was 'the work of the mind,' the result, that is to say, of subjective interest and initiative. But soon the inevitable further step was taken : the 'compounding and relating' of these isolated and independent elements was transferred by Hume to certain 'natural' processes, and then connected by Hartley with brain *vibratiuncles* ; and thus the supremacy of psychological atomism was assured for a century or more. But it is the first step that costs, as the French say, and that is what we have to challenge. The disorderly, unrelated aggregate of simple sensations is a pure chimæra, an *Unding*. If genetic and comparative psychology prove anything, they prove this. The earliest phases of experience are as little chaotic and fragmen-

tary as are the earliest forms of life. In the so-called 'contents of consciousness' at any moment, the psychologist may distinguish between field and focus, what is perceived and what is apperceived, and may allow that, as we descend in the scale of life, this distinction is less pronounced or even disappears altogether; but discontinuity he never reaches, either in the objective or in the subjective factor of experience. And when similar situations recur, the new is not ranged beside the old like beads on a thread, but the one is assimilated and the other further differentiated; and so there results a growing familiarity and facility, as long as such situations awaken interest at all. Presentations, in short, have none of the essential characteristics of atoms, they may come to signify things but never to be them, — and the growing complexity of psychical life is only parodied by treating it as mental chemistry.

How, then, it may reasonably be asked, do I propose to account for the long predominance of associationism and for the recent revival of psychological atomism in a modified form? For instance, it has been said that the so-called 'laws' of association are for psychology what the law of gravitation is for physics; surely they must be of substantial importance to make so extravagant a claim even possible? Yes; as I have allowed, they deal with nine tenths of the facts. A man at forty is a bundle of habits, we say; and a bee seems to be such a bundle from the first. Again, the poet exhorts us to rise on stepping-stones of our dead selves to higher things. Now it is solely in the wide region of already fixed, already organized, experience that associationism finds its province. It can deal with so much of experience as is already grown, formed, and so far, in a sense, dead; with what has become reflex, "secondarily automatic," to use Hartley's phrase, *i. e.*, more or less mechanical. But here as little as elsewhere can the mechanical account for itself; these psychical 'quasi-mechanisms' have to be made, and the process of making them is the essential part of psychical life. Presentations do not associate themselves in virtue of some inherent adhesiveness or attraction: it is not enough that they "occur together," as Bain and the rest of his school imply.

They must be attended to together: it is only what subjective interest has integrated that is afterwards automatically reintegrated. Were association a purely passive process so far as the experient is concerned, it would be difficult to account for the diversities which exist in the organized experiences of creatures with the same general environment; but subjective selection explains this at once.

But the plasticity of the objective continuum, upon which this process of organizing experience depends, opens up a whole group of problems, which I may perhaps be permitted briefly to mention, though they may seem to belong to psychophysics rather than to general psychology. How are we to conceive this plasticity? J. C. Scaliger is reported to have said that two things especially excited his curiosity, the cause of gravity and the cause of memory, meaning thereby, I take it, pretty much what we are here calling plasticity. Had Scaliger known what we now know about heredity, his curiosity would have been still more keenly excited. The facts of heredity have led biologists again and again to more or less hazy — but withal interesting — speculations concerning ‘organic memory,’ as Hering has called it; ‘organic memoranda’ would perhaps be a better name. Memoranda, however, imply both the past and the future presence of mind, of experiencing subject, though they may exist as materialized records independently of past writer or future reader. Heredity treated on these lines commits us to a more or less poetical personification of nature; it is nature, the biologist supposes, who makes, and equally it is nature, he supposes, who uses these organic memoranda. The continuity of life — as the biologist is wont to regard it — renders such a view possible. *Omne vivum e vivo* is the formula of this continuity. But of any corresponding psychical continuity we not only know nothing, but what else we do know leads us to regard it as inconceivable. We have, then, continuity of life between parental and filial organisms, and yet complete discontinuity between parental and filial experiences. But is there after all complete discontinuity even between the two experiences? Yes, we incline to answer, the more we consider feeling, attention, initiative, the individual-

izing aspect of experience, or the higher and later phases of it in which these are most pronounced. No, we are tempted to answer, the more we consider the instinctive and inherited aptitudes which constitute most of what is objective in the lowest forms of life, and the beginning of what is objective in all forms. May it not be said that we here come upon the problem of the One and the Many in a very concrete form, and that it is as intractable for psychology as is the more abstract, perhaps more legitimate form, in which it presents itself to metaphysics?

Simpler and less intractable is the somewhat cognate problem of subconsciousness. We hear of subconscious sensations as well as of subconscious memories or ideas: here I refer only to the latter. They are sometimes spoken of as traces or *residua*; sometimes as 'dispositions,' psychical or neural or both; the one term implying their actual persistence from the past, the other their potentiality as regards the future. The nature of this potentiality is what chiefly concerns us. Even here there must be something actual if we are to escape the absurdity of *puissances ou facultés nues*, with which in this very connection Leibniz twitted Locke. Disposition is a somewhat ambiguous term. It means primarily an arrangement or collection, as when we talk of the disposition of stones in a mosaic or of troops in a battle. But it usually carries a second meaning, which however presupposes, and is consequential on, the first. Every actual combination entails a definite potentiality of some sort and usually several, one or other of which will on a certain condition become actual. Sometimes this condition is something to be added, sometimes it is something to be taken away. A locomotive with the fire out has no tendency to move, but with 'steam up' it is only hindered from moving by the closure of the throttle-valve or the grip of the brake. Now presentational dispositions may be assumed to be of this latter sort, to be, that is to say, processes or functions more or less 'inhibited,' the inhibition being determined by their relation to other presentational processes or functions. This, of course, is the Herbartian view. On this view the use of the term 'subconscious' is justifiable, as long as the latency is relative and not absolute. But if we regard the

so-called *disposita* merely structurally, if such an expression may be allowed, if, in other words, we suppose all functioning to be absent, then there seems no warrant for the term 'sub-conscious,' nor yet for such a phrase as 'physiological disposition,' meaning tendency, and still less for that of 'psychical disposition' or tendency. But on the physiological side, at any rate, it seems reasonable to assume the persistence of a certain neural 'tone' or activity: what is known as 'skeletal tone' or muscular tonicity is indeed evidence of such persistence. Yet from the psychological side there comes the supposed fatal objection: It is surely incredible that all the incidents of a long life and all the items of knowledge of a well-stored mind, that may possibly recur, are continuously presented in the form and order in which they were originally experienced or acquired. But no advocate of subconsciousness has ever maintained anything so extravagant. Subconsciousness implies what Leibniz called involution or the existence of what, taking a hint from Herbart, I have ventured to call the ideational tissue or continuum. Though the explicit revival of what is retained is successional, recurs, so to say, in single file, yet a whole scheme, in which a thousand ideas are involved, may rise *towards* the threshold together; and, conversely, in the case, say, of a play which we have followed throughout, there is a like involution when at the end we express our opinion of it. It is a mistake then to suppose that all the impressions that have successively occupied our attention persist *item for item* in that *multum in parvo* apparatus which — with due reserve — we may call our ideational mechanism. But of their subconscious persistence as thus assimilated and elaborated there is, I think, abundant evidence. If such subconscious continuity be denied, we can accord to voluntary attention no more initiative in the revival and grouping of ideas than belonged to non-voluntary attention in the reception of the original impressions: the immediate determinants of both alike would be physical stimuli. And apparently — to judge by their terminology — some psychologists believe this to be the case.

This whole topic of the growth and development of reminiscence and ideation has been too much neglected, largely in con-



sequence of the spurious simplicity of the atomistic psychology ; particularly its crude doctrine that ideas are mere copies or traces of impressions, its adoption of a physiological hypothesis, now seriously discredited, *viz.*, that the seat of ideas is the same as the seat of sensations, and its failure adequately to distinguish between assimilation and association, or to recognize the wide difference that exists between the processes which it describes as association through contiguity and association through similarity. We owe much, I think, in the treatment of this topic to Professor Höffding's article, *Ueber Wiederkennen, Association und psychische Aktivität*, especially to his distinction of 'tied' and 'free' ideas, a distinction, however, which I find Drobisch had previously drawn. I regret that there is no time left for further remarks on this problem.

Among other problems particularly deserving of consideration, I should like at least to mention the genesis of spatial and temporal perception ; the whole psychology of language, analytic and genetic ; psychical analysis, objects of a higher order, the so-called *Gestalt-qualitäten*, in a word, the psychology of intellection generally. All of these, including the topic of ideation previously mentioned, lead up to what might be termed epistemological psychology, the psychology, that is, of universal experience on its individualistic side. Perhaps other members of this congress may see fit to broach one or other of these problems. But I confess that those on which I have enlarged somewhat, the definition of psychology, the nature of subject activity, and the criticism of the atomistic theory, seem to me now fundamentally the most important. I wish I had been able to deal with them in a way less unworthy of my audience.

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## A FACTOR IN MENTAL DEVELOPMENT.

WHEN we trace the development of mental life upward from the lowest forms of the animal kingdom, we are led to believe that the process has been marked chiefly by progress in two respects: first, advance in the power to discriminate among stimuli, and second, the rise, somewhere in the course of development, of the power to form 'free ideas.' Another mile-stone in the path of development is the beginning of social or ejective consciousness; but this, as the writer has elsewhere attempted to suggest, may have grown out of the power to form free ideas in situations where motor reactions of a social nature have already been produced through the influence of the creature's needs. It is the aim of the present paper to indicate how both these great gains of psychic evolution, discrimination of present experiences and clearly conscious recall of past experiences, have been dependent in part at least upon one factor: the organism's growing power to react to stimuli not in immediate contact with the body.

Let us take up first the matter of discrimination. The external senses are grouped as higher and lower according to the number of discriminable qualities they furnish, from sight with its thousands down to warmth and cold with their one each. In the course of organic development, the power of primitive living beings to react to light and darkness has grown into the painter's capacity to distinguish color tones and saturation grades; the original shock from oscillations of air or water has developed into the tone discriminations of the skilled violinist; the undifferentiated response of the protozoön to mechanical stimulation at any part of its body has become the finger sense of the mechanician. Now an increase in the number of discriminable sensations within a given sense department means one of two things, sometimes both. Either qualitative discrimination becomes more highly developed, or local discrimination grows finer. We have an

example of the first in the series of auditory sensations ; of the second in the sense of touch, where qualitative uniformity, comparatively speaking, is compensated for by exceedingly fine localization ; and of both in the sense of sight.

Further, this process of growth in discriminative power has been conditioned, like all the phenomena of organic development, by the vital needs of the organism. At every stage of evolution, the creature's energy of discrimination, so to speak, is limited, and must be expended in a direction that will best aid its possessor to survive. From this point of view, we find that the facts concerning the power to discriminate, qualitatively and locally, in different sense departments may be grouped under two laws.

First, qualitative discrimination has been developed with reference to stimuli that do not immediately hurt or help the organism.

Second, stimuli that are or may be harmful or helpful at the moment of their application have given rise to local discrimination at the expense of qualitative distinctions.

As regards the first principle, it is clear that stimuli such as light or sound, which cannot directly and instantaneously affect the organism's life, are those which have given rise to the greatest number of qualitatively distinguishable sensations. The reason is that, since it is unnecessary for the organism to make, in instant response to such stimuli, movements accurately adapted to their location, it is at liberty to expend its psychic energies on qualitative analysis. Time can be taken to discover what the stimuli are, because it is not so desperately necessary to distinguish where they are and act accordingly. Local discrimination in these senses may go hand in hand with qualitative discrimination, as in the case of sight, but it will not obscure it. The sense of taste is a further illustration. It is the poorest of the group, sight, hearing, smell, and taste, in the number of its qualities. It is also the one of these four whose stimuli do come into direct contact with the body. That it should possess as many qualities as it does may well be due to the fact that its stimuli, though touching the body, do not touch it at the localities where they can harm or help ; hence local discrimination is unnec-

essary. Taste stimuli come into contact with the body in the mouth; their first chance to hinder or help the organism's welfare comes ordinarily further on in the alimentary canal.

On the other hand, the two classes of sensations that illustrate clearly how qualitative discrimination may be swamped through the immediate need for local discrimination are touch sensations and, preëminently, sensations of pain. Here the stimulus is not merely in contact with the organism; it is where it may injure, or actually is injuring. Immediate motor response adapted to the location of the stimulus is demanded; there is no time for qualitative investigation. To say that the contact senses have fewer qualities than sight and hearing because the variety of stimuli for sight and hearing is greater, is obviously to beg the question completely. There is as much variety in the chemical constitution of bodies as there is in the ether or air disturbances which they send to us. *A priori*, this variety might well have been represented by an equal variety of touch and pain qualities; what is lacking is not stimulus differences, but sensory discrimination. The motor reaction demanded by such stimuli has been too immediate; there has been no time for more than a vague cognition of the 'what.'

We said at the outset that this principle would throw light also upon the problem of the rise of free images. Whatever one's theory of the nature of nervous action may be, it is evident that the reproduction of a sensory image by central excitation demands that its original stimulus shall have left upon the nervous substance a relatively permanent effect. The stages of development in response to stimulation may be classed as three. First, there is the primitive condition where the animal does not learn by individual experience. A stimulus entering such an organism, and sending its energy out again through whatever motor paths are available, leaves so little effect upon the substance through which it passes that the animal behaves towards a second stimulus of the same kind precisely as it did towards the first. In the next place, we have that stage of development where the animal learns by experience, without, however, having the power to recall an image of its experience. This, if we are to believe recent

investigations of the animal mind, is probably the stage at which many animals quite high in the scale remain. The chick stung by a bee cannot later have the image of a bee suggested to him, but he can and does refrain from picking up the next bee he sees. Here the stimulus has modified the behavior of the animal. The permanent effect it has left upon the nervous substance would seem to involve chiefly the motor paths, the direction of the outgoing current. But renewed stimulation from without is necessary before this modification makes itself apparent. Finally, when we have the possibility of an image, purely centrally excited, and not leading immediately to movement, when a process similar to the original one may be set up, not by an influx of energy from without, but by the weaker nervous current coming from some other central sensory region, it is evident that the nervous substance must have been far more profoundly affected by the original stimulus than it was at either of the earlier stages. Now what characteristics of a stimulus would determine how thoroughly and deeply it would affect the nervous substance through which it passed? Its intensity, the quantity of energy in it, of course; but still more emphatically the length of time that energy remained in the centers in question, without being drained off into motor paths and transformed into bodily movement. Not merely the strength, but the duration of the current determines how deep a path it shall dig out for itself.

We have already seen that stimuli which are in a position to help or harm an organism at the instant of their contact with its body are stimuli demanding immediate motor reaction, adapted especially to their location. In such cases, the energy of the stimulus is deflected at once into the appropriate motor path; its modifying effect is produced upon the regions of motor discharge, but it is not delayed long enough in the sensory regions to produce any permanent change there. It is probable that the consciousness of such stimulation is not very intense or distinct. But when the creature has developed a capacity to be affected by light and sound, which cannot help or harm at the moment of their action upon its body, then reaction may be postponed; then the current of energy sent by the stimulus into the nervous sub-

stance is not at once drained off, but may linger sufficiently long to produce whatever alteration, whatever impress upon sensory centers, is needful to insure their subsequent functioning as the basis of a free image. Delayed reaction, made gradually possible by increasing sensitiveness of the organism to stimuli only indirectly affecting its welfare, is then the source of the image-forming power. May not the same principle help to explain also why it is that the fully developed mind gets its clearest and most controllable images from the senses whose stimuli do not indicate direct contact of a beneficial or harmful object with the body; while the closer and more direct the stimulation, as for instance in touch and organic sensations, the obscurer is the image?

A final thought suggests itself in this connection. The so-called higher senses, those with greatest qualitative differentiation, with clearest images, and with stimuli demanding, under primitive vital conditions, least immediate and instant reaction, are also the senses giving rise to æsthetic feelings. That is, the affective tone of impressions from these senses is largely dependent on the relations of the elements rather than on their character. This fact is surely connected with the possibility of delayed motor response in the higher senses. The relation between two simple sense impressions could not come into clear consciousness, either on its own account or as represented by a feeling, unless neither of the impressions required instant reaction. There is no such thing as an æsthetics of touch or organic sensations, because here there has been no time, between stimulus and reaction, for dwelling on the relation between the sensory effects of different stimuli. In a word, upon the possibility of reacting to stimulation that neither hurts nor helps the organism at the moment of its operation, may rest the basis of all higher mental development.

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## SCEPTICISM.

IN the present article I shall have in mind chiefly, as the objective point, the question of the possibility of a final and satisfactory philosophy. And by scepticism I shall mean here that somewhat unsystematic attitude whose ground is to be found primarily in an appeal to the fact of error, and a challenge to point out the marks by which we might recognize truth if we once were to stumble on it. "I am quite willing," the sceptic may say, "to renounce the task of proving dogmatically that we cannot know reality as it is. I only reserve the right to ask : If we can know truth, pray where is it? Produce a specimen of truth that is certain, admitted, indubitable. Until this can be done, you can hardly complain if I exercise the privilege of withholding judgment. And now what likelihood is there that you will be successful in such a task? Let me point out first that there is indubitably the thing which we are accustomed to call error. Men have proved to be mistaken in their most cherished beliefs ; or, better, these beliefs have come to be rejected, and rejected almost universally. In the life of the individual thinker the same thing is true. That man is rare indeed, if he exists at all, who has not been compelled to discard beliefs which once seemed to him fully warranted. Indeed, the more we examine into it, the more we recognize in how thoroughgoing a way human experience is infected with the disease of uncertainty. Essentially every belief is fluctuating, subject to dispute and contradiction, transitory in the sway which it holds over men's minds. Even the testimony of the senses is constantly leading us astray ; judged, indeed, by the standard of science, it never even approximates the truth. And in the realm of opinion, as opposed to judgments of sense perception, an even greater confusion exists. It is worst of all in philosophy. Perhaps there never was a time when men were more divided than at the present, and that, too, not upon details merely, but on the great essentials. One man says mind is real and not matter ; another matter, and not mind.

One says that they have equal reality, and one that neither represents the truth. And none of these philosophers, with all his arguments, can convince the others, although all are sincere and honest men, who love the truth, and have their minds open to admit it. And if the most of them are certainly wrong, why may not this be true of all? Rather, *must* not this be so, since otherwise someone surely would be able to give reasons for his belief that should carry conviction?"

What, now, seem to be the essential facts of the case, in view of this sceptical complaint? And first of all, it is to be noticed that to be a *consistent* sceptic, a man should be ready to commit himself to the definite position that he has no reason to accept any one thing as true above any other thing. But, as a matter of fact, in any reasonable being this can only be the veriest pretence; one who makes such an assertion may without hesitation be set down as, consciously or not, posing for effect. We are, as Montaigne says, natural believers. A man can no more help believing something, if he is still a thinking animal, than he can help breathing, and still remain alive. Whether or not he can justify his belief to others, whether or not he can point out any standard to which belief must conform, he still inevitably will find himself believing. He may realize that there is the abstract possibility that every one of his beliefs will sometime in the future be overturned. But the present truth still seems to him to be true; he still asserts it to the exclusion of its opposite. At the very least he asserts, *i. e.*, he believes in, the truth that he is sceptical of all truth. Otherwise he would be trying to adopt the impossible attitude of asserting and denying the same thing at the same time.

The first point is, then, that all men do believe something, and that no possible difficulties about the theory of belief will ever stop their doing this, so long as they choose to think at all. Of course a man may stop thinking. But then he is no longer a sceptic; he is intellectually a nonentity. In other words, a man cannot think, and at the same time really and fundamentally doubt the power of thought to attain to some degree of truth. I may doubt a former result of thought, but only by accepting



for the time being the validity of the process by which I doubt it. For the doubt itself presupposes the very thing that is doubted. Doubt is not mere absence of belief. In doubting, I am also thinking. I am using thought to overthrow thought. I am using premises, that is, which my conclusion says are false, in order to reach this very conclusion. Any particular truth I may perhaps doubt, except the truth that in the thinking process truth is implied.

And now the second point is this: that if we do necessarily believe something, we have no right on the basis of the sceptic's argument merely to stop at any particular point, and say that beyond this belief cannot go. All I am justified in saying is, that I cannot at present come to any conclusion about the matter; not that some one else may not have valid reasons for belief, or that I myself may not in the future see my way clearer. The fact that I am not as yet convinced, furnishes no ground whatever for the conclusion that the truth will never be known. It may, indeed, induce me to give up the search as hopeless. But this is just the theoretical weakness of scepticism. Scepticism, in other words, stands primarily as a disinclination to prosecute the search further. It is a personal confession that, in the face of a certain problem or group of problems, I feel myself baffled and ready to quit. And it is significant that commonly it is the attitude of the amateur, of the one who approaches a subject with only a subsidiary interest in it, and who has not the time or the will to push through to the end. No man is a sceptic in every direction. Few men are sceptics in the special field which they have made their own. We have had in our own day a striking illustration of this in the case of Professor Huxley. Professor Huxley is a sceptic in ultimate questions of philosophy. He has thought far enough to see the difficulties of the problem, and his interest is not sufficient to carry him through these difficulties which loom up before him. In precisely the same way, and for the same reason, he is a sceptic in another field also. He has an interest in a certain complicated literary problem, — the relationship of the first three Gospels, — and he has followed the discussions far enough to be aware of the differences of the

result, and the great complexity of the data. And the consequence is that here too he is satisfied to stop the inquiry in despair of any final settlement. The problem, he says, is in all probability incapable of being solved. And yet there really is no ground for such an attitude. To the one who has made a business of it, to the expert in that particular field, there seems every reason to believe that the solution is not very far away. The differences are on the surface; but underneath there is a solid basis of secure result, which gives every promise of success. And the significant thing about it is this, that Professor Huxley was himself the very opposite of a sceptic in other directions, in which scepticism seems at least equally justified. Nothing can be finer than his robust faith in the future of science, and in the possibility of an answer to the most intricate questions, which science has as yet scarcely proposed to herself. Professor Huxley would have been the first to decry a despair of science as weak and wholly baseless. And yet here, surely, we have difficulties quite as great as in the synoptic problem, at least. The difference is simply a difference of interest. One problem he approaches as an avocation, the other as a business. He is ready to give up the first because he does not care for it sufficiently to carry it to its issue. The other he is determined to solve, and so he thinks it solvable.

The point is, then, that scepticism means a personal defeat and loss of interest. There may be nothing that can compel the sceptic to believe that a solution is possible. But, on the other hand, his attitude contains absolutely no reason why the problem should be given up, or why another man should feel the least hesitation about grappling with it, *if he wants to do so*. It is wholly a matter whether or not the desire for the solution exists. If it does exist, a mere appeal to past failures will only act as a spur to endeavor. And this is just as true of an ultimate philosophical inquiry, as it is of any minor problem of knowledge. The line cannot be drawn at any particular point. Now the fact is that the philosophical or the metaphysical impulse does exist. It shows, indeed, no sign of diminution. And this is a sufficient reason, not only why metaphysics will continue, but why it has

a right to continue. The sceptic has no more business to universalize his own attitude, than a child would have to demand that everybody should stop playing because he himself is tired.

And yet to stop here would be doing an injustice to the real significance to which scepticism undoubtedly may lay claim. And, first, its practical significance. Taken merely as one aspect of the thought process, scepticism has an important function to perform. It stands for a criticism of all positive results, and the demand that we should not stop with too easy a conviction of truth. The thinker has always need to be on the alert lest he acquiesce too hastily in a particular solution, and allow the plastic spirit of thought to harden into some narrow mould. Scepticism is the crystallization of the attitude of a distrust of finality. It calls for continued criticism, for constant openness of mind to new evidence. Looked at in this way, scepticism will always be a necessary moment of thought. Ideally, every man his own sceptic might represent the highest point of efficiency in thought. But since it is a hard matter for the philosopher to play the sceptic towards his own attained results, it perhaps is well, in addition to the criticism that comes from rival theories, to have the attitude of scepticism somewhat specialized, and put in the hands of a few whose movements are as little as possible hampered by a committal to positive results. But at the same time, the need is relative, not absolute. Far from denying the validity of thought, it rather presupposes it. In other words, the very possibility of doubt rests upon the assumption of truth. It presupposes not only that truth is attainable, but also that in some degree it has already been attained. No general doubt of the senses, *e. g.*, becomes possible, except as a new standard of truth has been erected, by reference to which we are able to condemn the senses as fallacious. Any real doubt is based upon reasons ; and reasons imply that already we take ourselves to be in possession of something in the nature of truth.

But there is also another and theoretical aspect of scepticism, which has not received justice in what has hitherto been said. For there is, after all, a real problem which scepticism proposes. "I will grant to you," the sceptic might be supposed to say, "all that

you have claimed. I will allow that certain general assumptions about the existence and nature of truth are involved in the attempt to think at all. I will allow that we always do, as a matter of fact, find ourselves believing many things. But that does not touch the main point at issue. What I am chiefly concerned about, is not to know that there is such a thing as truth, but to discover what particular concrete beliefs are true, and what are not true. And just this is what I claim we have no grounds for determining. At a given time, no doubt, I believe that a certain thing is true. But I also in the past have had the experience of believing things just as strongly, which I afterwards came to doubt. What confidence can I have that history will not repeat itself? This is in a sense an abstract possibility, no doubt. But does not the bare possibility throw a wavering and uncertain light over all our supposed knowledge? And must not any reasonable man admit the *possibility* that in any particular case he may be mistaken? He does not believe that he is mistaken. But would not the denial of the bare possibility that he may be, mark him at once as a dogmatist? For, again, how is he to single out these beliefs of his which by no possibility can change? He surely does not consider that all his present beliefs are eternally and unalterably fixed. If past experience be any guide, some of them are sure to change in the future. How is he to be certain that any particular belief is not among the altogether indeterminate number of these convictions that are destined to alter? Has he any guarantee beyond the degree of assurance which he feels, the clearness with which the truth comes home to him? But is not this also a clear truth of experience, that, as a criterion, clearness and warmth of conviction may be misleading? Such an assurance may fail us again, as it has often failed us in the past.

“And still less does it give us any rational ground for coming to a decision between the beliefs of different men. I have certain beliefs which seem to me true; and I have confidence, therefore, that when these beliefs are denied by some other man, it is he who is mistaken, and not myself. But what right have I to this confidence? Surely I am not ready to set myself up as the standard of truth, and maintain that whoever differs from me is

thereby proved to be wrong. Every man will no doubt decide that his own final conviction is justified. But this rationally is not satisfying. Must we not, in short, fall back upon the statement that we believe a thing simply because we feel sure that it is true; and is not this practically admitting the sceptic's contention? There is no criterion which will enable us to give a demonstration for our certainty that any particular concrete judgment about the world is unalterably true."

There is much in this position with which I find myself in agreement. In the first place, I cannot but think there is a sense in which, in the last analysis, we have to depend upon our own private assurance, or feeling of conviction. For himself, each man is necessarily the court of last resort. In spite of his disagreement with other men, in spite of his own past changes of opinion, he believes a certain thing; and, while he may be able to give good reasons for this belief, after all the main point is, in the case of his reasons as well as of the opinion which these support, that he finds himself believing. There is something in him to which the belief appeals. He finds satisfaction in it. His whole nature seems to flow harmoniously in this direction. There is no sense of conflict. In a word, he is assured of its truth.

The second point is closely related to the first. I think that it needs also to be admitted that logical certainty belongs only to the abstract statement of the conditions of belief, and not to any single concrete belief about the actual nature of things. We are justified, if we think at all, in saying that true thought must be consistent, that it must not contradict itself. But what the concrete nature is of the real existence which is absolute and self-consistent, we are not justified in asserting, except with the proviso, in each particular case, that we may possibly be mistaken in our judgment. Of course I do not mean that we may not believe with very great confidence that we are in possession of a final and essentially unchangeable truth. It is only the justification of the *impossibility* of the contrary that is lacking. The only thing that we can rest upon is the abstract law of contradiction. If we are going to think, we are bound to think in a way which does not involve both the assertion and the denial of the

same thing at the same time. No man can consciously and intentionally do this, any more than he can move backward and forward at the same time, or lift his hand at the same time that he leaves it at rest. Indeed, the law of contradiction, put in psycho-physical terms, would seem to involve precisely this physical impossibility; the motor aspects of assertion and of negation are contrary, and mutually inhibit each other. But any concrete belief whatsoever, intended to refer to the real world, may conceivably be outgrown. Such a concrete belief is in every case an hypothesis merely, held subject to correction by further knowledge. *If* our belief truly represents the facts, then the contrary cannot possibly be true. Valid knowledge must be consistent. But are we ever justified in saying, absolutely and beyond the possibility of question: In this particular concrete judgment about reality, I have reached the bed rock of truth, and it is inconceivable that either now or in the future new light should be thrown upon it, or that it should get a different interpretation?<sup>1</sup> Again, this does not deny the practical fact of assurance. It only is meant to point out that, however strong our conviction, it never warrants us in shutting out the possibility of what may be a truer interpretation, an interpretation which may conceivably involve a modification in our present belief.

But now if we grant this, does the sceptical conclusion follow, that therefore we have no ground for preferring one belief to another? Does it make the mere fact that we feel assurance the sole guarantee or criterion of truth, and so take away all possibility of deciding in case of conflict? It seems clear that this is not necessarily a consequence at all.

Let me attempt once more to state the problem. There is a sense in which it seems to be true that the final guarantee of our belief is the fact that we believe. The thing is felt to be true and self-consistent, and that is the end of the matter. On the other hand, the test has frequently failed. It has not prevented our convictions from changing; and it has not prevented men from

<sup>1</sup> I emphasize the word 'concrete.' In abstract thought we may indeed be sure that nothing will come in to change our conclusion, because we have arbitrarily limited the field by choosing to confine our meaning to certain particular data. This furnishes a special problem, but I do not think it interferes with my present contention.

holding opposite beliefs about the same thing. Why, then, if its claim has been discredited once, should we trust just the same claim again? Or how, if two such claims come in conflict, should we judge between them? If the test is sufficient in one case, it is sufficient in all, and all beliefs are justified. If it is not sufficient in every case, it is sufficient in none.

Now practically, in spite of everything that may be said, we do consider ourselves to be in possession of some criterion beyond the bare feeling of clearness or certainty. How is it that this actually works? And I may take the case where two opposite opinions about a given matter are held by different men. Now, in such a case, each man must be for himself the final judge. But does this mean, practically, that a man has no guarantee of the superiority of his own belief, beyond the mere fact that it is his? Each man will say for himself: My conclusion seems to me to be the truer; for otherwise it could not be mine. But it is quite possible that he should see a logical justification also for this partiality towards himself, so that his recognition of the other man's equal confidence would have, and ought to have, no tendency to disturb his own opinion. There are two ways in which beliefs actually are held, both of them quite apart from the unthinking appeal to mere blind personal prejudice. Some beliefs we hold as probable, and yet when we come up against a strong difference of opinion, it shakes our confidence a little. We find ourselves hesitating and wavering, and if at last we come to a decision and reassert our belief, we still feel that we have no way of showing decisively, either to ourselves or others, that our opponent may not possibly be right. It remains to some extent just a conflict of authority, and we decide for our own side simply because we are ourselves, and no man can in the last resort go back of what seems true to him. Most of our beliefs into which we grow without any careful examination of their foundations, are likely to meet with such an experience as this. But there also are cases where none of this hesitation is felt. The fact that some one disagrees with us does not in the least affect our confidence. Indeed, it may even strengthen our conviction. We feel that our final decision is dictated, not by the fact that it

is to us as individuals that the casting vote falls, but by something in the situation which gives us a logical precedence which it denies to our adversary, and enables us to play the part of abstract and impartial reason.

The practical ground for this distinction it is of course not difficult to discover. Generally speaking, we have a logical right, as opposed to a psychological disposition, to prefer our own assurance to that of another, only when we are able to recognize the relative truth of all for which our opponent contends, see it from his point of view, and understand fully the reasons which appeal to him, and still can find that we are able to hold to our own standpoint as more adequate and inclusive, — as accounting for all the facts that he recognizes, and others beside. No one is in a position definitely and finally to reject an opposing opinion, until he can put himself sympathetically in the place of the one who holds it, and understand why it seems to him true. Just so long as we are simply in the polemical attitude, and find the view that we are opposing wholly irrational and absurd and false, so long as there is anything in it which strikes us as entirely without ground and motive, we may take this as equally a reflection upon ourselves, and suspect that the grounds of our own judgment are still incomplete and in need of partial reconstruction. When, however, it is possible for us to say: I also should hold to my opponent's opinion, if I were limited to his data; but these new facts, or new aspects of the old facts, which he has failed to recognize, compel a different answer, — when one can say this, one feels oneself on safe ground. The new facts need not be part of the immediate subject matter of the problem in hand. They may be obscure presuppositions that exist in the background of our opponent's consciousness, and create prejudices which affect his attitude toward concrete matters of opinion. Then we give what we call in a special sense a psychological explanation of his belief, and show how it springs naturally from these limitations of his mental outlook, which make it impossible for him to approach the evidence in a way to see what it actually contains. But in either case the general method is the same. We feel ourselves logically justified in



overriding another's opinion, because we think that we have a point of view which includes all that our opponent sees, and enables us to admit its relative justification, but which also goes beyond this, and presents a more inclusive system of facts.

It is clear that the criterion which this suggests goes back to the conception of the logical nature of thought as a unified system of related facts. Without amplifying this conception any further, I shall try merely to sum up the bearing which it has upon the claims of scepticism.

In the first place, it furnishes a working criterion of belief. We no longer have to hold that any and every belief has an equal justification, or lack of justification. The mere feeling of conviction, when interpreted as the feeling of consistency, can be supplemented by the logical and rational test which consistency itself implies. The idea of a consistent system, even though it comes home to us ultimately in feeling, carries with it the means of comparison between beliefs, on the basis of the degree in which the belief is inclusive of the facts. Of course this would not work apart from the presupposition of common data of experience. If beliefs were based upon wholly different sets of facts, there would be no way of judging between them. Practically this often is the case. There are men who, just for this reason, never can by any possibility come to a rational *modus vivendi*, who live in different thought worlds, and have no common ground of argument. But fortunately this is not the universal rule. There is a general fund of experience on which we all are accustomed to draw. On the whole, there is as much agreement as there is disagreement, at least in the general data on the basis of which our interpretation of the world rests. And wherever this is true, there the criterion will work, at any rate in a rough way.

And now, in the second place, it may be seen, I think, how it is still possible to say that our confidence rests in the last resort upon itself, upon the fact that we do actually give assent to the truth of things, and yet do not find it necessary to allow our changes in belief to affect this confidence seriously. In two ways belief goes back, in the final analysis, not to anything we can demon-

strate, but to an assumption, and even a personal assumption. The content of our belief, the data out of which the system of belief is formed, are, as I believe, postulated on the basis of certain existing demands of our nature, and have no further warrant. And so also the consistency into which we try by thinking to bring this content, is evidenced ultimately by the sense of intellectual satisfaction, whose attainment is the goal which we set for ourselves when we aim to be consistent, and in terms of which we have practically to be content to describe this goal. Now it is true that we never can have logical ground for the certainty that any particular state of mind characterized by this sense of consistency will be final. And yet this does not prevent the feeling from being a valid test. There is even a sense in which it might be maintained that the feeling, in so far as it has a logical value, is never mistaken. For all that it really claims is this: If the facts as I now see them are a complete and adequate expression of the real facts, then my understanding of them is the only consistent understanding, and is the truth. If an opinion seems consistent to any man, it is actually consistent on the basis merely of the data which enter consciously into the forming of that opinion; and it justly claims the universality of any judgment. Any man whatsoever, seeing no more and no different facts, would arrive at the same conclusion. Moreover, so far as it goes, the basis on which the judgment is formed represents reality. Nothing whatever that is ever taken for a fact is wholly unreal. The interpretation may be wrong. But some modicum of reality does underlie it, which a complete knowledge would have to take into account. Every conviction of truth, then, rests upon reality, and would be justified were there no other facts which it leaves out of account.

The reason, accordingly, why we cannot set down any particular interpretation of things as fully and irrevocably adequate, is evidently this: that we never can be sure that we have exhausted the relevant data. So long as there is any outlying fact, or aspect of a fact, which we have not recognized, so long there is the possibility, based upon our experience of previous changes of conviction, that we should, were we in possession of

it, alter our present point of view.<sup>1</sup> The sense of consistency is the only rational test. For practical purposes it is ultimate. Any concrete present judgment has to be formed on the basis of the data which we possess. On such a basis, we feel that our sense of conviction justifies itself, and is for us, for the moment, final. If we judge at all, we must do it with the material at hand. We cannot judge on the basis of that which we may possibly know in the future, but which by hypothesis is to us at present nothing at all. So, again, the criterion enables us to compare present with past beliefs, and say definitely that one is at least truer than the other. And, finally, in the case even of the judgments — any possible judgment — we imagine ourselves passing in the future, we may, although we cannot forecast its concrete form, still recognize that the same criterion will have to attend it, if it is rationally justified. But what the possibilities are in the way of new facts of experience, we never by any chance can say; and therefore it is that any belief must be held by us as conceivably capable of being modified by further experience.

It will always remain a logical impossibility, therefore, to demonstrate the necessity of any particular view of the world. But, on the other hand, it needs once more to be pointed out that this does not deny the possibility of practical assurance. The root of assurance lies back of logical necessity, in the depths of our active and practical nature. No amount of reasoning can ever leave us absolutely without belief, simply because we are more than reasoning beings, and we never can possibly get away from ourselves. And in the realm of logic itself, we must distinguish between an abstract possibility and a real possibility. That I have a right to believe, is the one thing scepticism cannot touch. It must presuppose the right in order to be scepticism.

<sup>1</sup> In making this statement universal, I have reference to beliefs which deal with the *interpretation* of facts, and their place in reality. I do not mean to maintain that we may not know with certainty present facts of personal experience. I should hold that we cannot be mistaken in the belief that some fact of experience exists. Nor do I see how we could well go wrong in our knowledge of the nature of at least some of the simpler phases of our experience, so long as they are regarded simply as facts of our own immediate experiencing or meaning. Even here, however, one needs of course to exercise great caution, by reason of the well known dangers that attend introspection and memory.

What in particular I am, or am not, justified in believing, depends upon concrete conditions. In order to shake my confidence in my own assurance, it is not enough, practically, to make me recognize the possibility that my judgment *may* be mistaken. I must have some solid and positive reason, in terms of concrete experience, for believing that it *is* mistaken. Now evidently all the concrete grounds for my judgment are the outcome of past experience. New experiences may alter my opinion when they come. But until they come, or until I have some definite reason to look for them, they may rightly be disregarded. If my present point of view seems to me sufficient, if apparently it harmonizes all the facts, and if, as time goes on, it continues permanently to approve itself to me as essentially adequate, after being subjected to the testing process of added experience, then I should be foolish if I were not practically to acquiesce in it, and take it as for me an assured result, to be accepted as governing my life, without the abiding sense of uncertainty, or a continual looking to see it overthrown. Indeed, I cannot help taking this attitude, so long as the system of belief is the outcome of my practical needs. Apart from particular grounds for disbelief, there is, to be sure, this general ground once more, that many beliefs in the past have changed. This is, of course, so far as it goes, a positive reason, and, as I have argued, it ought to teach us caution. But to make it an absolutely general reason for hesitation, is, I think, only possible if we exaggerate enormously the facts about the actual fluidity of belief. If a man's intellectual experience has been entirely discontinuous and chaotic, there is indeed for him good reason to distrust his newest opinion. But this is the case at most only very rarely. If, as a matter of fact, our intellectual growth is more or less continuous, if the relation to earlier beliefs is normally one of absorption, rather than of destruction and entire reversal, then the weight of the consideration will not be the same for all cases of belief, but will differ according to the concrete circumstances; and sometimes it may rightly be very small indeed. If the new experience ever does occur which throws doubt upon my past generalization, then, indeed, I should not allow any attained result to lead me to refuse it welcome. I

should be ready to revise my belief as occasion requires. But until this comes about, I am justified in trusting to what I know. And the more my experience attains a certain weight and comprehensiveness, the more confident I may feel, and rightly feel, that no new fact is likely to overthrow so assured an edifice of belief, or do more than alter it in its minor features.

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## ETHICAL SUBJECTIVISM.

OVER against the doctrinaire who looks thrice at the datum that bids fair to contradict his presuppositions, stands the scientific observer who will let theories wait while he gathers his facts. This latter is the true eclectic. He welcomes all truth, and he is committed to none. He presses no single theory to its outcome, because in no one rather than another does he find the promise of a complete explanation of the observed phenomena. Against any school or tendency of thought that shows signs of narrowness or partiality, his hostility is unwavering. He must have candor in the presence of the facts.

To men of this temper, no doctrine is more thoroughly distasteful than the ethical subjectivism, which holds that conduct invariably right which the agent believes to be right. The position has, it is true, some support in popular philosophy. "A man can but do his best," say the proverb-mongers. But, on the other hand, they tell us that "ignorance is no excuse"; and no character is more generally detested than the self-righteous bigot. Shall we adopt as our moral ideal the psalm-singing dolt who has not wit enough to perceive his own egotism? Ethical subjectivism — we hear it said — fails doubly: first, to satisfy the intellectual need of a standard of moral evaluation; and, second, to satisfy the practical needs of social conservatism. For what possibility is there of ethical science, when the man in his individual finitude, with all the accidents and distortions of his peculiar environment, becomes the measure of things? And what escape is there from social anarchy, if each may do what is right in his own eyes?

But the theory not only offends the common good-sense of the eclectic; it comes into conflict also with the principles of a most ancient and worthy body of ethical thought. Scarcely a thinker of importance, from Plato down, if he does not hold that virtue is knowledge, would go so far as to deny that it includes knowl-

edge. Moreover, few men subject either to Aristotelian or Platonic influence would be apt to frame a *summum bonum* empty of wisdom ; and it is not uncommon to find the free life of increasing intelligence upheld as the very highest end of rational endeavor, — a final intrinsic good, to which all other goods are in the last resort contributory. This ‘intellectual pragmatism’ is not only shared by the greatest of professed thinkers ; it is the religious belief of multitudes of men of culture, who, in devoting their lives to the enlargement of human knowledge, conceive that no higher ambition could have been chosen. To men of this class, the ideal of mere willingness to do the right can scarcely seem other than brutal and contemptible.

And yet, when we attempt to indicate the exact place of knowledge in the moral ideal, we find the task not easy. If any knowledge is to be so considered, none will more naturally be fixed upon than that of the consequences of conduct. Asking, then, the question, how far the moral agent is responsible for the actual (as distinguished, on the one hand, from the foreseen, and, on the other hand, from the probable) consequences of his acts, we find the answer in general wavering and uncertain, but, on the whole, inclining to an extreme negative, — that the agent is not in the least responsible for such consequences. We find, indeed, some very forcible expressions of opinion to this effect. Clifford, for example, devotes some admirable rhetoric to this point ;<sup>1</sup> and so circumspect a thinker as Meinong declares for this view no less unreservedly.<sup>2</sup> Suppose we accept this opinion for the moment, and proceed to ask what bearing the probable, but not actually foreseen, consequences may have upon the morality of the act. The ‘probability’ of such consequences may have two meanings : either that they were foreseen, or would have been foreseen, by the wiser individual who passes judgment ; or that the agent himself would not have overlooked them had he used proper deliberation. Now when the act is condemned, let us say on account of the evil nature of such consequences, it is

<sup>1</sup> “ When an action is once done, it is right or wrong forever ; no accidental failure of its good or evil fruits can possibly alter that.” *Lectures and Essays*, p. 340.

<sup>2</sup> *Psychologisch-ethische Untersuchung zur Werththeorie*, p. 197.

clear that a moral judgment of some such import as the following is implied, — that the agent ought to have possessed, and ought, therefore, previously to have acquired, the greater knowledge possessed by the external observer ; or that he ought to have used greater deliberation before the act. In either case, it is not the knowledge as such, but a willingness to acquire and employ knowledge, that is deemed requisite and is thus posited in the moral ideal.<sup>1</sup> But if knowledge of the consequences of conduct has no assured place in the ideal, it becomes at least doubtful whether any knowledge is thus distinguished.

It may interest us in this connection, to recall to mind a certain very profound change which has affected the moral ideal in the course of the history of civilization, — the gradual inwardizing of the ideal, its purging of all that is external to the volitional disposition of the agent.<sup>2</sup> Thus strength and personal beauty have been stripped away, together with excellence of birth and reputation. Only in highly organized societies is intentional injury legally distinguished from unintentional, both being in earlier societies equally exposed to the resentment and vengeance of the injured party ; and, according to the religious belief of even highly civilized peoples, divine punishment falls as rigorously upon the unwilling as upon the willing offender. Now the unexpected outcome of an act is as thoroughly external to the disposition which the act evinces as physical strength is to integrity. And so one might be tempted to describe any disagreement with Clifford and Meinong in this matter, as an ethical atavism, — a reversion to an earlier, though very recent, type of conscience.

What has just been said will fail altogether of its object, if it be understood as an argument against what I have called ‘intellectual pragmatism.’ My purpose has been simply to show that if intellectual pragmatism is to be maintained, it may well be in a form not inconsistent with ethical subjectivism. As for the eclectic’s notion of subjectivism, that, as I hope to make clear, is

<sup>1</sup> So Clifford, in the same passage, says of belief : “ The question of right or wrong has to do with the origin of his belief, not the matter of it ; not what it was but how he got it ; not whether it turned out to be true or false, but whether he had a right to believe on such evidence as was before him.” Cf. Meinong, *loc. cit.*, p. III.

<sup>2</sup> Cf. Ehrenfels, *System der Werttheorie*, Vol. II, pp. 64 ff.



at least unnecessarily crude. False the theory may be, but not so flagrantly and obviously false as he supposes. A more searching and sympathetic examination than he feels called upon to give will easily convince us that an extreme subjectivism is far removed from issuing in an anarchy of sentiment and practice. Moral anarchy springs from an exactly opposite source, — from the fatalism that posits the ethical quality of the act in its uncontrolled event, making the agent wicked or beneficent in his own despite.

Without for the present expressing either agreement or disagreement with the subjectivist view, it may repay us to remove some frequent and not unnatural misunderstandings of its meaning. It does not mean that in view of the consequences of an act committed in the belief of its entire rightness, the agent may not conclude that on a similar occasion it would be well to act differently. It does not mean that, though all took place as he had looked for, a deeper consciousness of the manifold interests involved may not convince him of the folly of his act. It does not mean that he may not keenly and lastingly regret that folly. But it does mean that the act was nevertheless a good act; and that the contrary course, though justified by later reflection and by the fortunate issue of events, would have been wrong, absolutely and eternally wrong.

Again, it does not mean that the good man is to rest self-satisfied, content with his ignorance, trusting to the innocence of his intentions, without troubling himself to make those intentions as enlightened as possible. For it is at least possible that increase of knowledge may be among the ends for which he considers it right to strive. Speaking more generally, it is not to be supposed that according to an ethical subjectivism the object of volition is morally indifferent, and that it is only a mysterious abstract quality of rightness or wrongness, attaching somehow to the volition apart from its objective content, that is of moment. On the contrary, for such a theory, the whole contemplated act, as it presents itself to the agent's judgment, is of moment. Because unforeseen consequences and unweighed considerations are eliminated from the act, it does not therefore

follow that the precise nature of the foreseen consequences and effectual considerations is in the least to be ignored. No element that, as a matter of fact, does enter into the determination of moral judgment upon the contemplated act, can be without interest for such a theory. The view with which this must not be confused is that quasi-Stoicism,— never, I suppose, entertained by a serious thinker, though frequently imputed to many,—that the good will is simply the will to be good, to which any particular content is merely accidental, wealth and poverty, sickness and health, honor and disgrace, having no interest for it. The good will must not only have its particular object; it is the desire for that object, and it is only as such that it receives its moral predicate.

That these statements cannot here be made more definite is due to the empty formalism in which we have left the fundamental principle of subjectivism,— that the right conduct is that which the agent believes to be right. Rightness is left in the guise of a mere immediate quality; as if it should be said, "That is sweet which tastes sweet to me." But this defect is by no means irremovable or inherent in the general theory. It is open to its advocate, as to another man, to analyze the meaning of rightness, to investigate the evolution and present functioning of the moral judgment, and to take into account the manifold social relations which constitute the environment of the moral being as such. An ethical subjectivism, if it were held to-day, would differ from all similar theories of the past, in proportion as it was permeated with the theories and results of modern psychology and sociology.

One necessary characteristic of every ethical subjectivism is to be found in the prime importance which it sets upon the prospective judgment, the judgment of the contemplated act. If that was right which I believed right, my present judgment becomes a mere echo and abridgement of the former judgment. Similarly, criticism of the conduct of others takes upon itself a halting uncertainty due to the impossibility of arriving at their secret self-judgment; it must operate by means of general analogies that may not seldom be misleading. Now so much I be-

lieve to be true : that the judgment upon the contemplated act is, indeed, the archetypal moral function, fountain and origin of the moral life ; that to judge after this fashion is first and foremost what it is to be a moral being ; that all other moral judgments are relatively incomplete ; and that, in particular, the approval or condemnation of the conduct of others is virtually a projection of the judgment upon oneself, and must have been impossible prior to the emergence of that judgment. This is not to say that the judgment upon the contemplated act is the earliest member of the whole group, and that from it all the others have lineally descended. Mental evolution can hardly have proceeded on such lines. It is more probable that the whole group had a common development, facilitated by constant interaction ; and that the critical point of this development was the attainment of the distinctively moral phase by the leading member of the group, this phase being immediately communicated to the others through the constant relationship subsisting between them. It is impossible that the prospective judgment should be a distinctively moral evaluation, and the retrospective judgment fail to catch its tone ; or that a moral agent should not apply to the conduct of others the same type of judgment which he applied to his own. On the other hand, there can have been no veritable morality without self-judgment, and, indeed, the prospective self-judgment ; for the judgment upon another that does not apply (hypothetically) to the self is a mere expression of gratification or anger ; and the judgment of the past act that does not apply (hypothetically) to the future is so much colorless exultation or regret. These are plain facts which are at times lost sight of in recent studies of moral evolution. I feel, therefore, that it is on the whole an advantage rather than a defect in the subjective theory, that it lays such extraordinary stress upon the judgment of the contemplated act.

Non-committal as our language has been, the reader cannot have failed to suspect that it cloaks a strong sympathy, if not an entire agreement, with the theory under discussion. Let this stand confessed. What I would maintain is that ethical subjectivism, if not right, is nevertheless right as against its enemies ;

that its failings, pronounced as we shall find them, are not the transparent errors with which it is commonly charged; and, more than this, that such correction as it needs it can obtain from within, by the development of its own plain implications. A subjectivism thus criticized and developed will be found to contain all the theoretical and practical objectivity that the eclectic believes must be imported into it; all the emphasis upon the wisdom-element in virtue that the intellectualist can desire; and, I hope, all the sanctity of moral values that the spirit of piety requires. Whether, when all is said and done, the developed theory deserves to retain the name of its simpler form is a question not worth discussion here.

The fundamental weakness of the cruder subjectivism lies in the fact that it treats conduct atomistically, — breaks up the course of a man's life into a series of absolutely independent volitions, of each of which in its isolation the dictum runs, that if meant well it is well. Now this is neither true to fact nor true to the inner spirit of subjectivism itself; for if such a theory means anything, it means that the act is judged as the expression of a subject, a character; and the character thus expressed, the intellectual and emotional constitution of the agent, is itself the issue of previous conduct. We might perhaps add that ethical subjectivism is atomistic in its view of society, that each man appears to move in the light of an eternally separate and self-sufficient conscience. The opinion has, however, already been expressed, that this defect, where it exists, is quite superficial; and that subjective ethics may without violence be combined with modern theories of the social genesis and inheritance of ethical norms.

The moral judgment has for its objects volitions, actual or ideal. Although thus restricted in its field, it does not at the same time exclusively possess this, even as against other judgments of worth. The same conduct which is good or bad may likewise be beautiful, sublime, tragical, or ridiculous, — attributes proper to various phases of æsthetic appreciation. There is, in fact, no good or evil which may not to a properly receptive

observer appear as beautiful or ugly. The moral and æsthetic judgments are, indeed, closely akin; the similarity of their mode of functioning, — which has even led some thinkers to regard the one as a species of the other, or, at times, to posit an æsthetic element in moral feeling, — points to a recent genetic connection. In defining the distinction between the two, it is not sufficient to say, as we may, that the moral judgment views the volition as an expression of character; for character also is not beyond the range of æsthetic objects. An act of treason, for example, may be superbly tragic in its revelation of egoistic depravity.

The distinctive mark of that species of worth which we call moral is that it is measured by the satisfaction of a self-conscious person as a harmonious totality. Such a person is aware within himself of many appetites and desires pressing for satisfaction; and, recognizing himself to be other and more than any particular want, he conceives his peculiar satisfaction or happiness as realized, not in the satisfaction of any one of them or arbitrary sum of them as such, but in a certain coördination which allows to each a measured place. The notion of a character, or volitional disposition, in which such a coördination is effected, is the moral ideal.

The term 'harmonious' raises more questions than it puts to rest. A harmony of whatever sort must have its one or several underlying principles or laws, which fix within certain limits the proportions of its parts. Thus the harmony of æsthetic symmetry may depend upon the natural and immediate pleasantness of curves or rhythms, or of combinations of colors or sounds presented in fitting masses and intensities. The beautiful object is no mere many in one; it is a many that has a reason for combining in one in just such fashion as it exemplifies. So the moral ideal, as a peculiar harmony, must have its peculiar rational ground, which it is incumbent upon ethical science to discover. Among the many methods which have been applied to this end, the genetic study of the life of ethical norms in societies and in individuals furnishes one of the most promising. However, let us leave the question aside for the present, remembering still that without such supplementation the definition of morality is confessedly abstract and inadequate.

It has been a familiar subject of inquiry, whether to moral worth corresponds a specific appetite or desire, — as hunger is distinct from fatigue, and both from the craving for society. Of late, it has been customary to answer in the negative, on the ground that the satisfaction of this appetite would be but another element in the synthesis of character, to be restricted like the rest. The answer is essentially correct, but the problem is obscured by the crude psychology in which it had its origin. Any conceivable experience may be connected in consciousness with a pleasant or unpleasant affective reaction, and thus be correlated with a specific desire. I may have a desire to do right, just as I may desire to desire food; and these desires, like any others, have their appropriate limits in a well ordered life. But the limits of the desire to do right or be good are practically infinite, because the satisfaction of this desire cannot interfere with the proper satisfaction of any other desire; except, perhaps, that an absorbed regard to so general an end might interfere with a man's attention to each particular occasion for action. In so far, then, the above answer is erroneous; for there may well enough be a desire to do right; and, as a matter of fact, such a desire operates strongly in the life of normal men. Whether this desire is ever stimulated or reinforced by a peculiar organic complex comparable to hunger or fatigue, need not concern us here. But we note that the answer which we have criticised is correct in this, — that to any particular act of right conduct the general desire to do right is not essential. No other desire is necessary than the desire for the object in question. Moral worth attaches, indeed, not to the desired object as such, but to the desire itself as a manifestation of character. We are pleased or displeased at being pleased or displeased to act thus and thus, — a species of affective self-consciousness.

A thorough-going subjectivism would now declare that every act to which a moral judgment can apply must be preceded (or accompanied) by a moral sentiment with its implicated judgment of right and wrong; for, according to such a theory, any later judgment of the act is simply an approximate reproduction of that which gave the act its moral quality. As we have already

observed, it will be necessary for us to dissent from this view, on the ground that it asserts an unreal atomism of moral acts, — as if each in itself were a complete moral life. We must therefore restrict the proposition to acts in themselves moral, and to these in so far as they are in themselves moral; recognizing that an act, whether with or without a rightness or wrongness of its own (when viewed in isolation), may be given a new moral significance when regarded as the continued expression of previous sentiments and choices. With this reservation in mind, we may then hold that every moral act is accompanied by a specific sentiment which determines its quality as right or wrong.

Perhaps this position may be made more clear by contrast with a certain celebrated theory, to which it bears an external resemblance. It has been held that the desire to do right (which we have admitted to be a possible desire) must accompany every right action; so that in such action the particular end in view is desired only for the general end of doing right. The experience of men has not confirmed this theory, and it has not now a wide acceptance. The misconception upon which it rests is apparent when we consider the parallel proposition for negative worth. That every morally wrong action is accompanied by a desire to do wrong (which, by the way, is a perfectly possible desire); that wrong conduct is essentially constituted as such by the desire to do wrong, so that the immediate end is desired only for the sake of the ultimate end of wrong-doing, — these are propositions which no one would for a moment consider; yet they are scarcely more unreasonable or untrue to fact than the above. Our own belief is far simpler, — that in moral conduct the agent is conscious of his volition as right or wrong.

If even this proposition seems too extreme, that may be due to the narrowness of our terminology, according to which a whole host of apparent exceptions (hereafter to be briefly considered) must be recognized as only apparent. Or the disagreement may be in a measure due to a current misapprehension of the problem, whether any conduct (conscious human action) is ethically indifferent. The question, be it observed, is not whether between right and wrong there is a neutral region, a null-point;

but whether there is conduct to which the distinction of right and wrong is not pertinent. Even as thus formulated, the question is still ambiguous. It may be taken to mean, whether the doing or omitting of any act is morally indifferent; and in this sense the question is now answered in the negative by most careful thinkers, — exception being sometimes made of alternative means to a desired end. But this is distinctly different from the question, whether any actual conduct is non-moral. For the fact that the omission of the act may have been comparatively desirable or undesirable is not to the point, *when there was simply no question of its omission*. Confusion seems to have arisen from the circumstance, that the investigator, in the very process of inquiry, is apt ideally to transform his material. In asking whether such or such an act was moral, he imagines himself as about to commit the act and passes a deliberate judgment about its desirability; he finds that its commission or omission is not indifferent; and, accordingly, he gives his answer in the affirmative. After a careful review of the evidence, we are brought to the old-fashioned conclusion, supported by the general testimony of common experience, that by far the greater part of our more simply impulsive action is not properly moral, — except, indeed, as it may be included in larger moral purposes. We do not imply that moral action is necessarily deliberative, in the sense that the agent previously considers the probable consequences of the several alternatives, or the general principles involved, and acts upon the basis of such deliberation. But it must be insisted that every moral act is a choice, — without some conscious inhibition the conditions of moral activity could not arise, — and that the agent is aware of the choice as right or wrong.

So far we are in accord with the cruder subjectivism. But we must now make explicit the reservation of which warning was given above. It is important to note that an act committed without consciousness of any moral quality attaching to it, may nevertheless upon reflection be recognized as an indirect expression of character, and may accordingly be judged as such. I refer not simply to the acts of men carried away by extreme passion or intoxication, but to the whole host of habitual or



impulsive acts which may be as certain an index of the good or bad will as the most highly self-conscious acts. Conduct expressly moral is a potent factor in the formation of habit; and habits formed through its agency may bear the evident marks of its origin. The impulses, simple as they may be, are yet the impulses of a moral being; and he cannot wholly disclaim responsibility for them. Thus occasion is found for a species of indirect moral judgments. The present act is judged as the consequence of a (known or probable) series of acts, it being this former conduct that is the ultimate object of the judgment.

In like manner, an explicitly moral act, accompanied by a clear conviction of its entire goodness, may, nevertheless, become the object of adverse moral judgment when its relation to previous conduct is considered. The choice may be shown to have been misdirected by reason of previous immorality, and thus to be virtually an additional expression of the weakness of character formerly displayed. Here, then, without departure from the real spirit of ethical subjectivism, we have arrived at what is apparently a complete reversal of its most formidable dogma, that that is right which I believe to be right. For my very belief is the fruit of past endeavor and cannot legitimately be separated in reflection from the circumstances of its origin. And yet the solid core of the dogma is retained, — that the good of my present conception is so far good, and is, indeed, the only good which is now open to me. To act against the best judgment of the moment, however careless or otherwise inadequate may have been its premises, and however happy the event may prove, is simply to commit an additional wrong. And since, after all, human life is one that must be lived *forward*, the good of ethical subjectivism, poor as it may seem in retrospect, is the highest ideal toward which a man can ever strive.

The distinction is currently made, that whereas independently of its actual consequences a volition may be judged as *formally* right or wrong, its *material* rightness or wrongness must be determined by reference to the actual outcome of the act. For a well-meant act may turn out ill, and the worst intentions may have a fortunate issue. Now, if our analysis be correct, the for-

mal quality of the volition is its proper moral quality, as an expression of the character of its agent; and that which with greater honor is termed the material rightness is simply the desirability of the object as such, or of the volition as its cause, not an ethical determination at all.

This view of the matter, shared by every possible ethical subjectivism, is the point to which the broad-minded eclectic takes particular exception. Why such violence to the facts? he asks. Why thus disrupt the act as it occurs, making so much ethical and so much non-ethical? Why not include the whole act in the judgment,—motive, intention, real and expected consequences, and all? We reply that we do include the whole act through the entire history of its inception and through the whole course of its influence upon later conduct. But distinctions must be drawn. In the first place (to begin at the beginning), the so-called 'real' consequences of the act do not flow from it alone, but from the whole present constitution of the universe, and in their extent include all future history. If, in our desire for objectivity, we will indeed have nothing less than the whole act, we forbid judgment altogether. But this is clearly not the objector's meaning. There is, or may be, a more or less clearly defined series of events which stand in obvious relation to the act as their cause, in such a manner that, other things being equal, its omission would have meant (and would in general mean) their non-occurrence. These are the consequences of the act which he would have us include in our judgment upon the act itself. But his meaning is not yet clear. He may mean simply that these recognized consequences are, or are not, desirable in themselves; but that is not a moral judgment. He is more apt to mean that the consequences are of such a nature as to make the repetition of the act under like circumstances advisable or inadvisable; but this also is not a moral judgment, though it may easily enter into or be combined with a moral judgment. A deliberate change of practice, consequent upon observation of previous results, may easily take place without the slightest adverse reflection upon the moral quality of the former mode of conduct. But the objector's meaning is still more likely to be, that the conse-

quences to be included in the act are such as the agent might reasonably have been expected to foresee ; and in this the subjectivist is perfectly free to acquiesce, on grounds which we have already in part related. In a word, the object of moral judgment is a psychical event ; and no ends of liberal, candid thought are to be gained by obscuring this fundamental truth.

There is, however, an ulterior motive to this charge of one-sidedness in subjective ethics,—a hatred of mawkish sentimentalism and the felt need of a social uniformity which shall be strong enough to put a stop to unsafe individual vagaries. No refutation of the charge can, therefore, be adequate which fails to show that the social binding force of the moral ideal is not weakened by this theory. We have defined the moral ideal (substantially) as the notion of a man's complete self-satisfaction in his conduct,—terms which are in themselves not free from opprobrium. How, from such a standard, can anything more than a system (or chaos) of individual caprices be derived ? The problem is a real one and must be squarely faced.

A partial, but ultimately unsatisfactory, answer is derived from the general theory of values. Though the immediate criterion is individual sentiment, yet we must observe that in this respect, as in others, men are not altogether peculiar. In fact, within certain social groups men's conceptions of right and wrong are remarkably uniform, a circumstance to be partly attributed to the survival value of such uniformity in the various grades of the social struggle for existence. The value of a bushel of wheat depends, in the last resort, on the varying appreciation of many individuals ; but, despite striking exceptions, there is an approach to similarity in their needs and tastes for such a staple, and the demand for it is sufficiently dependable to give it a market price. The appreciation of veracity varies also from man to man and from age to age, but, for the most part, within narrow limits ; and its worth in comparison with the various other ends with which it comes in conflict,—such as reputation, personal safety, mercenary gain,—is satisfactorily constant. But there are exceptions, and what of them ? What of the habitual liar, to whom the telling of an untruth is an innocent pleasantry ? What of the

confirmed libertine, to whom the pursuit of his prey seems the natural occupation of a gentleman? What of the insensate bigot, to whom persecution of the unbeliever is a holy task and a delight? Shall we say of these men that because their conduct meets with no condemnation in their own eyes, we also must hold them innocent? Because they believe that what they do is right and proper, have we therefore no motive to correct their conduct? If the formally good is the morally good, why not let ignorance enjoy its bliss and depravity rest comfortably in its congenial sty?

A further, but still partial, answer is to be found in the fact that men live in such social union that the conduct of each individual is in various degrees subject to check and correction by his fellows, and the acquiescence of one man in the conduct of another is part and parcel of his own conduct. The act which is formally but not materially right is not only an occasion for present and later reflection by the agent, but concerns his associates also; and, however they may concede its formal rightness, their concern is none the less to prevent its repetition. I am so far my brother's keeper, his conduct is so far my conduct, that it is formally right for me to endeavor — by such means as expediency may dictate — to keep him from doing material wrong. Public opinion thus constitutes an external standard of rightness, to which, in general, a man is somewhat narrowly bound. If his ethical sentiments are extraordinary, he may expect to have his personal liberty forcibly curtailed. Furthermore, where the possibility of instruction exists, no unimportant part of the conduct of a man is made up of the lessoning in morals which he gives to those who are under his influence; and in the performance or negligence of the duties thus involved, he is subject to his own moral judgment. We may say, therefore, that the content of another man's moral ideal is not indifferent to me, because, and in so far as, it lies within the sphere of my own conduct.

But the question remains: Are such men as we have described subject to our adverse moral judgments; or does our reaction to their misdeeds stop short with instruction and forcible interference? The answer concerns the place of knowledge in the

moral ideal, and to determine this we must resort to a department of ethical research which we have hitherto only touched upon in passing.

The facts to which we must refer are, however, among the patent conclusions of contemporary thought. The moral ideal of a man is, in the first place, a social inheritance, an imitatively accepted body of sentiments, which constitutes the product of the accumulated experience of ages with regard to the conduciveness of various ways of action to the general welfare. The manner in which this accumulation takes place is familiarly illustrated by the figure of the bow and arrow, — a complex instrument brought to perfection by successive modifications, each occasioned by experience of some failure of the existing form to meet some felt emergency. Even so the common opinion as to what conduct is best adapted to the general welfare has been developed from the observed inadequacy of earlier conceptions. This, then, may be said to be that principle, which we were aware must needs underly the harmonious unity of the moral ideal, — an adaptation to super-individual interests, which has been secured by a certain phase of social evolution. But, in the second place, the moral ideal of a man is not merely passively received ; on the contrary, it undergoes in the individual a development very closely analogous to its evolution in society. The judgments which he receives, he acts upon ; and in so doing he is occasionally brought into conflict with a certain more or less powerful motive, a feeling of concern for the interests of his associates ; and the dissatisfaction thus arising becomes the core of a modified moral sentiment. This is the process by which each of us has arrived at what appreciation he possesses of the requirements of the actual social relations in which he stands. It is only by the expression of the ideal in conduct, that the imperfections of its immaturity are revealed and corrected.

Let us return to the question of the relation of knowledge to virtue, and to the charge against ethical subjectivism, that it makes goodness a mere willingness to be good, wholly divorced from practical wisdom. The charge is unjust simply because the willingness to be good is so far from being a trait unconnected

with knowledge of the right, that it is only by the manifestation of this trait that such knowledge can be acquired. The knowledge of the material good and the disposition to act rightly are by no means wholly separable factors in conduct. To a certain extent the future event is ever hidden from us, and no peculiar goodness of heart can enable a man to choose the fortunate means to each desired end. But to a very large extent the material rightness of conduct depends upon the agent's recognition of the concrete social relations which envelop him ; and the essential condition of such recognition is his previous willingness to act upon such insight as he has possessed. For, I repeat, it is exactly by this means that the force of these relations has become generally recognized, and that they have accordingly become inherent in the very constitution of society. There are things which a man ought to know ; the ignorance of which, though it may be moral justification for a particular act considered by itself, is none the less convincing evidence of his general worthlessness.

This relation between knowledge and disposition is, moreover, a reciprocal one. Not only is knowledge of the right only to be developed by right conduct, but such knowledge is itself an element in the disposition which issues in right conduct,—a logical circle, which, in this day of the world, should dismay no one. Will and intellect are no longer regarded as separately explicable functions. It is not an accident to knowledge that it issues in practice ; it is essentially practical. True, the development of knowledge and of virtue may be conveniently distinguished, and it is quite permissible to say that such a one is better, though not wiser, than another. But we must recognize that the ideal which is lived up to is, in its very content, a different ideal from the same 'ideal' when it is comparatively ineffectual. The latter lacks the minor premises that bind the vague universal with the definite particular instances,—premises, it is true, which are themselves no unfeeling intellections, but appreciations of the worth of things, while they are quite as far from being abstractly affective, devoid of logical intention. The very motive of sympathy, through whose agency the individual

development of the moral ideal takes place, is never, in an incipiently moral being, a mere blind affect, but has its essential core in an intellectual recognition of a human society.

For ethical subjectivism, virtue is indeed knowledge, but not any knowledge. It is real knowledge, actual knowledge, knowledge as the determining motive of conduct.

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## DISCUSSIONS.

### PROFESSOR BAWDEN'S FUNCTIONAL THEORY: A REJOINDER.

Before the discussion of Professor Bawden's functional theory of the psycho-physical relation is finally closed, there are a few remarks which I should like to make by way of rejoinder to his reply in the September issue of this journal. In what follows I shall attempt to avoid discussion of details so far as possible and to consider directly the chief points at issue. It seems the more advisable to adopt this plan, since Professor Bawden believes that the earlier criticism of his articles failed to bring into question the validity of his method, and left untouched what he regards as his main thesis, "the emphasis upon the functional character of all the categories of experience."

In the first place, it may be said that a functional view of the categories of experience is a conception which not only has been current in philosophy at least since the time of Hegel, but one which is almost universally accepted by the best philosophical thought of the present time. But while this is the case, it is also true, as Professor Bawden has said, that the 'functional' method has up to the present time failed to receive due recognition in the investigation of such a problem as that under discussion. The conception is one whose importance for the psycho-physical problem, I most heartily agree, is quite fundamental, and the attempt of the author to apply it systematically to the solution of the problem must be recognized as significant and interesting. But the mere recognition of the importance of the concept of function is, after all, a very short step toward a satisfactory solution of the problem. We may grant the fundamental importance of a functional view of all the categories of experience; but when an attempt is made to apply the functional method to the solution of a particular problem, the important considerations are the adequacy with which the functional method is conceived, and the consistency with which it is applied to the given problem. As I understand it, the articles under discussion are an attempt to apply the functional method to the problem of the relation of the physical and the psychical. Now it is just because they fail, as my former criticism attempted to point out, to give an adequate account of the method



itself, or to apply it consistently to the problem under discussion, that the treatment appeared unsatisfactory and disappointing.

In the former discussion I attempted to show, in the first place, that the articles, instead of giving any single and consistent statement of the psycho-physical relation, exhibited several distinct, and even contradictory, modes of treatment, representing distinct points of view. My paper also maintained, in the second place, that certain fundamental terms, notably 'function' and 'experience,' seemed not to denote any fixed and definite conceptions, but were markedly unstable in meaning, this instability seeming at once to facilitate and obscure the shift in standpoint. In reply to this, Professor Bawden has assured us that it was his deliberate intention to treat the subject from diverse points of view, and that, if the term 'function' is used in different senses, which the author seems to admit, he "has at least been successful in bringing them together." In regard to the first point, it may be said that it is undoubtedly true that the author intended to approach the subject from diverse points of view. But it is to be noted that the various and contradictory modes of treatment whose existence my criticism attempted to point out, were by no means explicitly differentiated in the articles. Indeed, they seemed to be so confused, two or three apparent changes in standpoint being found in the same article, and sometimes even on the same page, that only after the most careful study was it possible to distinguish them at all. But we must hasten to ask: What is the significance of this "bringing together" of the different senses of 'function'? If the problem was deliberately discussed from diverse points of view, it must have been because these various forms of treatment were regarded as implicitly united through the concept of function. But if the term 'function' itself is used indifferently in three distinct and unrelated senses, how can this union, this "bringing together," be more than verbal?

To the same charge, that the author's treatment has involved changes in standpoint, he has further replied that "it is nothing against the theory that all these various statements should prove to be true." It will be remembered, however, that these various formulations of the psycho-physical relation were found to be not only unrelated, but in some cases, mutually contradictory. For example, it was pointed out that the physical and the psychical were originally described as correlative meanings or functions arising together only under conditions of tension, while later the psychical was identified with tensional activity itself, and the physical described as non-tensional. Such an obvious contradiction as this, and others which might be cited, it

surely is impossible to reconcile. But even if it could be admitted that the various accounts given by the author all represented different truths, this would be of comparatively little moment. The real task would still remain to be accomplished, that is, the task of showing that the different truths thus stated were all alike aspects of one fundamental and inclusive truth, and that the truth which each represented was really the truth common to all. If these partial truths are to be brought together in any real sense, it must be shown that they are all cases included under one concept, — that the 'functional' relation is in all cases fundamentally the same. Now it is just this reconciliation, this synthesis, which, it seems to me, the author's account has failed to accomplish. Nowhere does he relate these different standpoints to a single principle. True, he calls them all 'functional.' But, as I have tried to show, 'function' and 'functional' are terms of varying meaning. The only possible sense in which the term 'functional' can be applied to them all is that of correlativity. That is, the terms in each pair have significance only in relation to each other. But it might be possible to select an indefinite number of such correlative or 'functional' pairs which could be applied to the physical and the psychical, without making the slightest approach toward a solution of the problem. Merely to set down side by side a number of separate partial descriptions of the psycho-physical relation, even if these were not mutually incompatible, without showing some fundamental relation between them, is certainly to fail in giving a satisfactory philosophical treatment of the subject.

Professor Bawden has also urged in his reply that my former discussion was merely a criticism of details, and that the main position remained untouched. But it was precisely the main contention of my former paper that one searches in vain for any single fundamental position consistently maintained throughout the author's treatment of the problem. The very purpose of the criticism, as was stated at the outset, was to show that the articles, "instead of giving any single consistent statement of the psycho-physical problem, present no less than four distinct and mutually incompatible positions." In order to show this, it was necessary to enter into a somewhat detailed examination and comparison of passages. The author seems to feel that, in this examination, certain opinions have been imputed to him which he does not entertain and which he had been at express pains to avoid. Now I certainly never intended to assert that these conclusions necessarily represented the views actually held by the author. They were set down rather as the logical conclusions to be drawn from various

passages appearing throughout the articles. It may be added that great care was taken to quote such passages wherever possible, and that, after further consideration, it does not seem to me that my criticism misrepresented the statements actually made by the author.

But we must hasten to what, it seems to me, is the chief question raised by Professor Bawden's reply, the question as to what is involved in the philosophical treatment of a subject, how such treatment differs from the account given by the special sciences. It is agreed that the subject-matter with which each science deals represents only a partial and abstract view of reality as a whole, and that consequently the results of science have methodological value only, and cannot be accepted by philosophy as ultimate and complete accounts of reality. The philosophical significance of any of these scientific abstractions, as Professor Bawden says, "can only be got by bringing it into the common clearing-house of philosophy with other similar abstractions, where they may all be adjusted in some mutual synthesis." This at once raises the question: What is implied in such a synthesis? If each science has its own special standpoint, and concerns itself merely with a partial and abstract phase of concrete reality, it would seem that the only method by which a synthesis of these partial aspects can be effected is to take a standpoint at once distinct from, and inclusive of, the special fields which the sciences investigate. From this higher standpoint it will be possible to trace the relations existing between the different sciences, and to reinterpret their abstractions in terms of the whole of reality. It would, of course, be absurd to demand that such a reinterpretation be couched in concrete words, or to suppose that it could ever express the fulness of reality. But it should, it seems to me, scrupulously avoid the technical abstract terms of the special sciences. The author's account was criticised, not because it employed abstract words, but because it appeared to have taken over technical scientific abstractions such as 'energy' and 'function' (in the biological sense), and to have applied them to experience at large. The result of this procedure, — as in my opinion the author's conclusions show, — is the loss of the more inclusive viewpoint of philosophy, and the inevitable shifting to the restricted view of the science whose abstractions are employed; but this must, of course, make impossible any real synthesis.

But the characterization so far given of the method of philosophy still fails to take into account the most important distinction between it and the method of the special sciences. Not only must the treatment of philosophy be broader and more inclusive than that

of any science, but in order to deal with reality in its fulness and concreteness at all, it must definitely take its stand within the life of self-consciousness, and reinterpret the abstractions of science with reference to concrete individual experience. This distinction is one which seemed to be recognized, implicitly at least, in the position taken by the author at the beginning of his treatment of the problem. The repeated insistence in the earlier articles published, that the only hope for a solution of the problem lies in a return to the principle involved in the practical attitude, in the reinterpretation of the abstractions of science in terms of immediate concrete experience, seems undoubtedly based on the implicit acceptance of this very distinction between philosophy and the natural sciences. Moreover, as I tried to show in my former paper, the first definitions of the psycho-physical relation seemed even to be made with this distinction definitely in mind. It was only after what I have called the 'biological' view of function was introduced that the standpoint of natural science was frankly assumed as the plane of discussion.

This same point comes up again when we consider the author's use of the term 'experience.' In the former discussion I objected that Professor Bawden had identified this term with 'process' and 'energy,' thus reducing it to a mere scientific abstraction. He replies that he has used the term 'experience' "as identical with the whole of reality," and that, therefore, he is perfectly justified in his use of terms. It is to be noted, however, that in the passages where experience is expressly described as 'process' and 'activity,' it is undeniably the experience which forms the subject-matter of psychology which is meant. Now the experience of psychology is surely not "identical with the whole of reality," but is very decidedly a scientific abstraction. But even if we accept the definition of experience given by Professor Bawden, the important question remains to be answered: If experience means simply "the whole of reality," what is the significance of the appeal to concrete experience which is so emphasized in the earlier articles? Of what significance is the demand that the concepts of science be reconstructed in terms of our actual experience, or the emphasis on the need of a return to the practical attitude of immediate experience? In raising this question, it is not intended to imply that experience is less than the whole of reality, or that there is a realm of reality lying beyond experience. But it does seem that if the appeal to experience, which philosophy so constantly makes, is to have any real significance, experience needs a more exact definition than is afforded by

describing it as "identical with the whole of reality." Does not experience mean reality as it exists in the self-conscious life of the individual, concrete reality as it is immediately given in relation to the needs of self-conscious life? Surely it is in this sense that the author uses the term in the earlier part of his treatment. And it is because he has, as it seems to me, left this inner standpoint, which may be regarded as the peculiar standpoint of philosophy, and taken the external point of view of the special sciences, that his account has failed to give an adequate or consistent solution of the problem of the psycho-physical relation.

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## REVIEWS OF BOOKS.

*Studies in Logical Theory.* By JOHN DEWEY, with the coöperation of members and Fellows of the Department of Philosophy of the University of Chicago. Chicago, The University of Chicago Press, 1903. — pp. xiii, 388.

The preëminent obligation which the writers of this book express to Professor James, as well as the general trend of the doctrines they expound, connect the volume obviously with the philosophical attitude which calls itself Pragmatism, and which is so much in evidence at the present time. But it is not always easy to harmonize the utterances of the adherents of this creed, nor, in some cases, is it easy to know what precisely they intend by their principle. Hence it will be best in dealing with the book to limit the discussion to the positions actually advanced, or apparently accepted, by the writers, and, for the rest, to treat it as a serious and detailed discussion of logical doctrines in a new light, rather than as a 'manifesto' in support of a new philosophical faith. In so doing, I believe we shall best consult the wishes of the editor and his contributors; for though they speak with the confidence of those who find themselves in possession of a fresh clue to old-standing difficulties, they speak without pretentiousness or undue contempt for the theories they claim to supersede. They make no claim of finality or of systematic completeness. "The point of view," says the editor, referring to possible divergencies among the eight contributors to the volume, "is still (happily) developing, and showing no signs of becoming a closed system." The divergencies, however, so far as I can judge, are really remarkably slight, observable for the most part only in the greater emphasis or sweep with which one writer or another states principles or doctrines common to all. It is, indeed, most unusual to find a series of philosophical papers by different writers in which (without repetition or duplication) there is so much unity in the point of view and harmony in results. That this is so is a striking evidence of the moulding influence of Professor Dewey upon his pupils and coadjutors in the Chicago School of Philosophy. The unfamiliar phraseology in which the writers sometimes couch their meaning makes the volume far from easy reading at first, but there always *is* a meaning to be grasped; and, as a carefully thought-out contribution to the 'live' thought of the

day, the book reflects honor upon the university among whose publications it appears.

The chief points of agreement, — and therefore the main contentions of the book, — are concisely stated by the editor in his prefatory note ; and, as the statement may be regarded as in a sense official, it may profitably be set down here for reference. “ All agree that judgment is the central function of knowing, and hence affords the central problem of logic ; that since the act of knowing is intimately and indissolubly connected with the like yet diverse functions of affection, appreciation, and practice, it only distorts results reached to treat knowing as a self-enclosed and self-explanatory whole — hence the intimate relations of logical theory with functional psychology ; that since knowledge appears as a function within experience, and yet passes judgment upon both the processes and contents of other functions, its work and aim must be distinctively reconstructive or transformatory ; that since Reality must be defined in terms of experience, judgment appears accordingly as the medium through which the consciously effected evolution of Reality goes on ; that there is no reasonable standard of truth (or of success of the knowing function) in general, except upon the postulate that Reality is thus dynamic or self-evolving, and, in particular, through reference to the specific offices which knowing is called upon to perform in readjusting and expanding the means and ends of life.” The obligation of the writers is further expressed “ to those whose views are most sharply opposed. To Mill, Lotze, Bosanquet, and Bradley the writers then owe special indebtedness.” The inclusion in a common category of thinkers so different in standpoint as those named strikes the reader at first with surprise, but its meaning and justification, from the point of view of the essayists, becomes apparent in the detailed criticism to which Professor Dewey subjects Lotze’s theory of knowledge (in Essays 2, 3, and 4), and in Miss Thompson’s critical analysis of Bosanquet’s theory of judgment in the paper which follows. The opposition of what we may call the new view to that which the essayists regard as held in common by the authors mentioned, and substantially as the logical tradition of previous philosophers, is summarily expressed by Professor Dewey, when he contrasts the ‘epistemological’ with the ‘instrumental’ type of logic. This antithesis introduces us at once to the main thesis of the volume. Thought, it is urged, is not something ‘pure,’ ‘absolute,’ or by itself, — whose occupation is to mirror or represent an independently complete and self-existent world of reality ; it is to be regarded as one function among others arising in

the course of experience, and as having for its sole purpose the transformation, re-construction, or re-organization of experience. Now in such a statement it seems to me there is much to which we may cordially assent, though perhaps without regarding it as the exclusive discovery of the pragmatists; while there are other implications of the words which we should be compelled to regard as false, or at least as misleading, in the form stated. We may agree, for instance, in the emphatic condemnation of the representational view of knowledge which has so disastrously dominated modern philosophy. Professor Dewey and his fellow-essayists argue convincingly that the view of knowledge as copying or reproducing an independent reality inevitably issues in scepticism, because in the very mode of stating the question it opens a gulf between thought and reality which no subsequent effort is able to bridge. "In whatever form the 'copy' theory be stated," says Professor MacLennan, "the question inevitably arises, how we can compare our ideas with reality and thus know their truth. On this theory what we possess is ever the copy; the reality is beyond. In other words, such a theory, logically carried out, leads to the breakdown of knowledge." Professor Dewey's exposure of the shifts to which Lotze is driven by his initial acceptance of this dualism is a masterly piece of analysis, running for a considerable part of the way on the same lines as Professor Jones's criticism in his *Philosophy of Lotze*. The whole conception of 'two fixed worlds' must undoubtedly be abandoned. As Professor Dewey excellently puts it in his opening pages: "Neither the plain man nor the scientific enquirer is aware, as he engages in his reflective activity, of any transition from one sphere of existence to another. He knows no two fixed worlds—reality on one side and mere subjective ideas on the other; he is aware of no gulf to cross. He assumes uninterrupted, free, and fluid passage from ordinary experience to abstract thinking, from thought to fact, from things to theories and back again. Observation passes into development of hypothesis; deductive methods pass to use in description of the particular; inference passes into action with no sense of difficulty save those found in the particular task in question. The fundamental assumption is *continuity* in and of experience. . . . Only the epistemological spectator is aware of the fact that the ordinary man and the scientific man in this free and easy intercourse are rashly assuming the right to glide over a cleft in the very structure of reality."

If epistemology is understood to imply belief in a cleft of this nature, then the sooner both the name and the thing are banished from philosophy the better. In this shape the supposed problem is in-



herited from Descartes's individualistic starting-point and the two-substance doctrine which he impressed on modern thought. But the isolation of the mind as a subjective sphere, intact and self-contained, *outside and over-against reality*, necessarily implies that reality is in a strict sense unknowable. Hence the scepticism and agnosticism which infect so many modern theories of knowledge. But reality is one; the knowing mind and its thought are themselves within the course of reality, parts of its process, immersed in the give-and-take of living experience. Whether we talk of reality or of experience does not seem greatly to matter, if we are agreed that there is no real world except the world which reveals itself to us in our experience and of which we feel ourselves to be a moving part. Whatever term we use, the essence of our contention is the unity and continuity of the world. And if I read the signs of the intellectual world aright, this conviction has so penetrated recent philosophical thought that the long-drawn discussions as to the possibility and validity of knowledge which so keenly occupied the theorists of the 17th and 18th and much of the 19th century seem to revolve round a self-made difficulty, and have ceased to that extent to possess a vital interest for us. We may be vividly enough aware of the poverty of our knowledge both in extent and intent, but that there should be in knowledge an inherent incapacity to know at all, is too topsy-turvy a notion to give us a moment's uneasiness. This conviction of the unity of existence, I repeat, has so permeated the best thought of the time that it cannot be claimed by the Pragmatists as an insight specifically their own; and it strikes one therefore with a sense of surprise to find Bosanquet's theory of judgment selected for critical analysis as typical of the old representational view. There are certainly phrases in Mr. Bradley's work which might seem to leave us, contrary to the author's intention, with an unknowable Reality lurking behind the world of ideas which we predicate of it. But Professor Bosanquet, one would have thought, had taught more persuasively than any other living writer, the unity of experience and the fallacy of all dualistic conceptions. And perhaps it is really because he so nearly approaches what they consider the true position that the Chicago logicians have undertaken to show to what extent the old leaven still works in him and makes him fall short of the perfect truth. On turning to the essay in question, I cannot help thinking that Miss Thompson lays undue stress on expressions which are perfectly legitimate, and indeed unavoidable, in any theory which recognises objectivity in knowledge at all. After all, there is a nature of things, to which our ideas have to adapt themselves if it would be

well with us ; and in this sense the real world is certainly independent of our ideas and unmodified by what we think about it. Why, according to the pragmatists themselves, it is the difficulty of coping with 'a situation,' which is the evoking cause of thought. Such a 'situation' is the very type of an independent world, whose precise nature we have to learn with more or less expenditure of labor, if we are successfully to extricate ourselves from our difficulty. The primary function of knowledge, in such a case, is to represent the situation accurately, in order to find a way out of it. But if such phrases are at once innocent and inevitable in the mouth of a pragmatist, they cannot in themselves fairly be held to convict Professor Bosanquet of dualism.

But the main objection of the critic seems to be to Bosanquet's description of knowledge as a system of judgments about reality as ultimately given for each individual "in present sensuous perception and in the immediate feeling of my own sentient existence that goes with it." This position (which, again, I hold to be beyond dispute) is, I submit, entirely transformed when it is paraphrased as "the mere assurance that somewhere *behind the curtain of sensuous perception* reality exists" (p. 92). This is a version of the critic's preconception rather than of the author's natural meaning. Similarly Professor Bosanquet may be venturing on slippery ground when he permits himself to speak of the individual's "point of contact with reality as such," and (still more so) when he describes the immediate subject as "the point at which the actual world impinges on my consciousness." But it is a far cry from such lapses of expression to speaking of Bosanquet's real world as "that against which we have bumped." The first of the two phrases would not indeed, I think, in the context of Bosanquet's theory, suggest any suspicion of the old dualism, except to one morbidly on the outlook for symptoms of that virus. An alternative phrase of Professor Bosanquet is that the real world *is present* in perception ; and while such phrases imply that there is more of the world, and more in the world, than is apprehended by us at the moment, they cast no doubt upon the actuality of the apprehension. Indeed, I cannot see how this immediate apprehension of reality differs from "the immediate experiences," or the unreflective "ways of living," which the essayists everywhere assume as the matrix out of which reflective or logical thinking develops, and into which it resolves itself again. And when Green's criticism upon the logic of Locke and Hume, namely that "the more thinking we do the less we know about the real world," is applied to Bosanquet's theory, and the

result is said to be avoided only "by a pure act of faith," it is surely as open to Professor Bosanquet as to his critic to reply that the results of thinking validate themselves by the harmony or system which they introduce into our experience. All thinking starts in faith and is justified by its works. If that is pragmatism, then we may all set up as pragmatists. But the badge of pragmatism, in the ordinary sense attached to the term, is the utilitarian estimate of knowledge as everywhere ultimately a means to practical activity of the biological and economic order. And in regard to this estimate I cannot do better than quote a few sentences from Professor Bosanquet's Inaugural Address at St. Andrews last year, in which he aptly traces the pragmatist contention to the very same obsolete view of knowledge which his critic here attempts to fasten upon him. After referring to the "debasement of the conception of knowledge which followed from the separation between world and individual, characteristic of the modern mind," he proceeds: "In this whole conception, that cognition is something secondary, it seems to me that we have a mingling of obsolete logic and meaningless spatial metaphor. The entire fabric is annihilated when we realize a single point. Knowledge is not a reproduction of an outside world, but an endeavour to realise our nature by the construction of a harmonious experience. The truth of Cognition is not its correspondence to something else, but its degree of individuality in itself. In a word, Cognition is one great aspect of the life of the soul, in so far as it is lived apart from the struggle against matter. I have not repeated the ancient doctrine that it forms by itself the essence of morality and religion; but genuinely to understand how this doctrine fails to be true, is a problem which modern popular philosophy has never approached at all. Certainly it is true that in Cognition our nature affirms itself after a completer type than in the Volition of everyday life."

The eloquent vindication of *Theoria* in the Aristotelian sense, of which these sentences form part, raises the whole question whether the pragmatists' view of knowledge is not due to the limitations which they themselves put upon the term. The writers in this volume insist upon the "derivative and secondary," the "intermediate and instrumental character" of thought, and by thought they agree in meaning "reflective thought," or reasoning. Thought, in this sense, as Professor Dewey puts it in his opening sentences, "comes after something and out of something and for the sake of something." "Thinking is a kind of activity which we perform at specific need, just as at other need we engage in other sorts of activity: as converse with a friend;

draw a plan of a house ; take a walk ; eat a dinner ; purchase a suit of clothes ; etc., etc." This view of thought as a specific function within experience is fundamental with all the writers, and they use a variety of terms to express the other phases of experience with which they contrast it. It is said to arise out of "unreflective antecedents," which are sometimes described as "ways of living ;" and when the thinking process has been successfully carried through, it "allows us to proceed with more direct modes of experiencing." Its aim, indeed, is "the resumption of an interrupted experience." Experience, with or without some adjective, is thus the term on which the writers most generally fall back. Reality is described by Professor Dewey as "the drama of evolving experience," a "world of continuous experiencing." Conflict in the contents of our "experiences" makes them "assume conscious objectification. They cease to be ways of living and become distinct objects of observation and consideration." Objects thus "only gradually emerge from their life-matrix." "The object as known" is accordingly, we are told, "not the same as the object as apprehended in other possible modes of being conscious of it" (p. 251). When even the conclusion or the completed judgment,—the insight at which we arrive,—is emphatically denied to be a judgment at all (p. 122), it becomes plain that the terms thought and knowledge are being used exclusively of the psychological process of solving a difficulty or arriving at a conclusion on some matter about which we are in doubt. Judgment is therefore described as essentially dynamic, "developmental," "transitive in effect and purport." That is to say, it exists, as it were, only momentarily in the passage from one mode of activity to another ; as soon as a "re-adjustment" is effected, "experience" flows on. "There is always antecedent to thought," says Professor Dewey, "an experience of some subject-matter of the physical or social world, or organized intellectual world, whose parts are actively at war with each other—so much so that they threaten to disrupt the entire experience, which accordingly for its own maintenance requires deliberate re-definition and re-relation of its tensional parts. This is the reconstructive process termed thinking ; the reconstructive situation, with its parts in tension and in such movement toward each other as tends to a unified experience, is the thought situation" (pp. 39-40). He calls it elsewhere "the particular functional situation termed the reflective" (p. 18).

But in proportion as we narrow in this way the application of the term 'thought' by emphasizing its 'intermediate' character and its double dependence, — "its dependence upon unreflective experience

for existence and upon a consequent experience for the test of final validity," — it is plain that debate as to the exclusively practical reference of thought becomes inept; the question as to this particular mode of expression being settled by definition, and everything turning, as to the general question, on the nature of those antecedent and subsequent modes of expression which admittedly include so much of our conscious life. For by the antecedents of thought is not to be understood a pre-rational or merely animal consciousness, but the general course of our lives, so far as it flows on smoothly without working itself up into those express efforts of purposive attention which constitute a 'thought-crisis.' The antecedents are, in short, as Professor Dewey puts it, "our universe of life and love, of appreciation and struggle." And each crisis, in turn, has for its result a unified or harmonized experience which, as we have seen, is the test of its validity. "The test of thought," says Professor Dewey, "is the harmony or unity of experience actually effected. In that sense the test of reality is beyond thought as thought, just as at the other limit thought originates out of a situation which is not reflectional in character." Those experiences beyond thought as thought, — "pauses of satisfaction," to employ a phrase of Professor Royce's adopted by Professor Moore in the last essay, — are obviously the end for which the thought-process in the sense defined exists. But to regard them in turn as merely practical or instrumental is gratuitously to fall into the snare of the infinite regress; while to speak of them as volitional or active states is true only in the sense that all our states are energizings of the conscious self. The satisfaction may be gained in the theoretic insight of the man of science and the philosopher, or in the æsthetic contemplation of a landscape or a picture, as well as in the smoother working of some practical activity in the ordinary sense of the word. This is borne out by the acknowledgment, at the close of the long essay on "Valuation as a Logical Process," that "the æsthetic experience would appear to be essentially post-judgmental and appreciative. . . . As an immediate appreciation, it has no logical function and on our principles must be denied the name of value. . . . It may have its origin in past processes of the reflective valuational type. Nevertheless, viewed in the light of its actual present character and status in experience, the æsthetic must be excluded from the sphere of values." Without commenting on this arbitrary inversion of terms, which refuses the title of value to what might more reasonably be taken as the typical instance of an experience possessing independent value, it is sufficient to note that, on this showing, this whole

realm of æsthetic experience, as post-judgmental and extra-logical, is excluded by the writers of the volume from what they mean by thought. Now the insight and the glow of art, of knowledge as such or of religious vision, certainly displays what we may call the static character of intuition rather than the features of what one of the essayists aptly labels "the doubt-enquiry process" of discursive thinking. But intelligence, reason, or thought in the highest sense, is of the very essence of such states, — is indeed the basis of their possibility, — for art, science, and religion are the triple differentia of the human from the merely animal consciousness. And, in spite of "our reigning biological categories," it is in the vision of truth and of beauty and of a perfect Good that man realizes a satisfaction which, though it may be transient in his individual experience, he recognizes as not merely instrumental but an end-in-itself, — the satisfaction of his specific nature.

It is the more to be regretted, therefore, that these essays throw no light on the nature of these non-reflective experiences, which apparently include so much more of our life, and which are certainly so much more valuable than the function of thought in the narrower sense, which is differentiated from them. Professor Dewey recognizes the existence of the problem, but he passes from it. "The nature of the organization and value that the antecedent conditions of the thought-function possess is too large a question here to enter upon in detail." It may be hoped that in another place he will undertake "the wholesale at large consideration of thought" which he says that he is here "striving to avoid." He draws a distinction in the opening essay between logic in the narrower sense, as the theory of "the particular functional situation termed the reflective," and "the logic of experience, logic taken in its wider sense." "In its generic form," he says, the latter "deals with this question: How does one type of functional situation and attitude pass out of and into another; for example, the technological or utilitarian into the æsthetic, the æsthetic into the religious, the religious into the scientific, and this into the socio-ethical and so on?" Such an investigation, involving as it necessarily would, an analysis of the attitudes in question, could not fail to prove instructive in Professor Dewey's hands. Its result would be, I think, to limit and qualify the pragmatist position in such a way as to deprive it of much of its paradox and novelty, without robbing it of the truth and interest it undoubtedly possesses.

In the narrower sphere of logic just indicated, — in logic proper, apart from epistemological or metaphysical issues of a general nature, —

the discussions of the present volume are markedly fresh and suggestive; and it need not be denied that they owe these qualities in no small degree to the stimulus which the writers derive from their general point of view, and to the systematic way in which they utilize for the purposes of logic the results of functional psychology. Professor Dewey's incisive criticism of Lotze has already been mentioned. Special reference might perhaps be made to his criticism of Lotze's metaphors of the scaffolding which is taken down when the building is completed and the path to the view-point at the mountain-top. Such a view of our thinking procedure, he contends, makes thought a tool in the external sense or a merely formal activity. The work of erecting should not be set over against the completed building as a mere means to an end; "it *is* the end taken in process or historically. . . . The outcome of thought is the thinking activity carried on to its own completion; the activity, on the other hand, is the outcome taken anywhere short of its own realization and thereby still going on. . . . Thinking as a merely formal activity exercised upon certain sensations or images of objects sets forth an absolutely meaningless proposition. The psychological identification of thinking with the process of association is much nearer the truth. It is, indeed, on the way to the truth. We need only to recognize that association is of contents or matters or meanings, not of ideas as bare existences or events; and that the type of association we call thinking differs from the associations of casual fancy and reverie in an element of control by reference to an end which determines fitness, and thus the selection of the associates, to apprehend how completely thinking is a reconstructive movement of actual contents of experience in relation to each other, and for the sake of a redintegration of a conflicting experience" (pp. 79-80).

Miss Thompson's analysis of "every live judgment" as involving a situation in part determined and taken for granted and in part questioned is very ably stated. In the doubt-enquiry process of the judgment the subject represents what is given or taken for granted in each case; while the predicate is that part of the total expression which is taken as doubtful or tentative. As soon as the doubt arrives there is always present some sort of tentative solution; and if the subject may be described as fact or real, the predicate is for the time being ideal. The opposition of fact and idea thus becomes a relative opposition within the total process of experience, and one which is continually being resolved. As Miss Thompson puts it: "All judgment is in its earliest stages a question, but a question is never *mere* question. There are always present some suggestions of an answer, which

makes the process really a disjunctive judgment. A question might be defined as a disjunctive judgment in which one member of the disjunction is expressed and the others implied. If the process goes on to take the form of affirmation or negation, one of the suggested answers is selected. . . . The question as to whether a judgment turns out to be negative or positive is a question of whether the stress of interest happens to fall on the selected or on the rejected portions of the original disjunction. Every determination of a subject through a predicate includes both." The same point is well put by Professor Dewey in his introductory essay in connection with the growth of science and the passage of mere hypothesis into accepted theory ; and the idea is instructively worked out in Dr. Ashley's essay on "The Nature of Hypothesis," to which Professor Dewey contributes an interesting comparison of Mill and Whewell. The whole discussion is eminently fresh, and seems to me an illuminative contribution to logical theory, though I do not believe that the interpretation given is bound up so closely with "the practical and biological criterion of fact" as some of the writers seem to suppose.

Dr. Gore's treatment of the relation of the image to the symbolic idea (which may, as one of the essayists puts it, become a mere index-sign) is one of the most convincing parts of the book. The idea as working symbol connects itself, he contends, with the final stage in thinking, when the content of the image has become so familiar that it acts as a direct, or, so to speak, automatic stimulus. "We are working along lines of habitual activity so familiar that we can work almost in the dark. We need no elaborate imagery. Guided only by the waving of a signal flag or by the shifting gleam of a semaphore, we thread our way swiftly through the maze of tracks worn smooth by use and habit. But suppose a new line of habit is to be constructed. No signal flags or semaphores will suffice. A detailed survey of the proposed route must be had, and here is where imagery with a rich and varied yet flexible sensuous content, growing out of previous surveys, may function in projecting and anticipating the new set of conditions, and thus become the stimulus of a new line of habit, of a new and more far-reaching meaning. As this new line of habit, of meaning, gets into working order with the rest of the system, imagery tends normally to decline again to the role of signal flags and semaphores" (pp. 198-9). Some mention should also be made of Dr. Stuart's analysis of the process of ethical deliberation as consisting essentially in the action and reaction of the previously accepted moral standard and the new mode of conduct contemplated. (pp. 196-202).



But it would obviously be impossible in a notice like the present to enumerate all the points of interest in the volume. The specimens given may suffice to suggest how much stimulus and instruction it provides for all genuine students of logic.

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*Æsthetik, Psychologie des Schönen und der Kunst*; Erster Teil, Grundlegung der Æsthetik. Von THEODOR LIPPS. Hamburg und Leipzig, Voss, 1903. — pp. xiii, 601.

Readers of Dr. Lipps's numerous and stimulating monographs on æsthetic subjects will be prepared to give a cordial welcome to this massive systematic treatise of which the first volume is now before us. The author's central principle of *Einfühlung*, and many details of his views on the æsthetics of spatial forms, of musical harmony, of humor and the comic, and of tragedy, have found expression from time to time; and, as editor of the *Beiträge zur Æsthetik*, he has given additional evidence of interest in this department. This volume and its successor will furnish a more comprehensive treatment of æsthetic problems from the psychological standpoint than has yet appeared; and, while the central principle of *Einfühlung* is everywhere applied, the value of the book does not depend solely upon one's estimate of that principle. For there is analysis of æsthetic form in general, of space forms, of rhythm, of color and sound, and of the sublime and other æsthetic species, which is preliminary to their interpretation. And this analysis is acute, sympathetic, and usually, if not always, convincing. Since Köstlin's masterly analysis of æsthetic form, no such important study of these problems has appeared, and as compared with Köstlin's work this proceeds more definitely from a psychological standpoint, as is natural from the author of the *Grundtatsachen des Seelenlebens*.

As already indicated, the standpoint and method of the book are psychological. Æsthetics is defined as the science of the beautiful. But an object is called beautiful, if it wakens or is adapted to waken in one a peculiar feeling. This effect, produced by certain objects, it is the task of æsthetics to analyze, describe and delimit, and then to explain. As such a science, æsthetics is a discipline of applied psychology. What, then, becomes of the common designation of æsthetics as a normative science, studying not what is, but what ought to be? The answer is simple: If we know the conditions for producing the feeling in question, we have the precepts which must be fulfilled

if the effect is to be produced. Insight into facts becomes here, as in all cases where a theory and a technique stand over against each other, at the same time a precept for æsthetic technique. And if it be objected from another quarter that the artist is free, and that no one has any right to give precepts to one whose sole law is to live out his individuality with no limitations, the answer is again simple. It is that all this is true provided we ask first: "*Who* is an 'artist'?" *When* and *in how far* is he who so calls himself, or is so called, an artist? How far has he *shown* himself such in a given case? Normative æsthetics has its secured place in the answer to these questions.

If the volume were viewed as a treatise of applied psychology, it would be my first criticism that the psychology is solely individual psychology. Granting that the æsthetic feeling is always the feeling of some individual, it is nevertheless possible, and I should hold certain, that this feeling cannot be fully explained by considering solely the individual — observer, artist, critic — and his object. Nor is the additional factor supplied entirely by the history of art, as usually understood. Social psychology has a distinct line of approach and a distinct contribution to make toward the explanation of the æsthetic feeling, some aspects of which I have attempted elsewhere to indicate. In this connection another criticism may also be made, which, while itself a detail, also relates itself to the general standpoint and method. No examination is made of the relation of sexual to æsthetic feeling. The topic is mentioned in connection with the discussion of the beauty of the human body (pp. 148 f.), but is dismissed with the dictum: "The sexual has nothing, not even the least possible, to do with the æsthetic. Those who employ it for the explanation of the æsthetic feeling know as little of the meaning of beauty and æsthetic contemplation as those who warn against 'nudity' in art, because they fear for morality, even in the case of chaste nudity; first for their own morality, then for that of others to whom they ascribe their own crudity." It is doubtless true that the æsthetic as such is not the sexual as such, but to say that the sexual has not the least to do with the æsthetic is to leave unexplained the favorite theme of all romance, of modern drama, of lyric poetry, not to speak of the relations between the lover and the lover of beauty which had such a fascination for Plato.

The volume is divided into six nearly equal sections, dealing respectively with the general principles of æsthetic form; man and nature; æsthetics of space; rhythm; color, tone, and word; the modifications of the beautiful, including the sublime, the tragic, the comic, humor, the ugly, and certain mixed æsthetic feelings.

The formal æsthetic principles, — unity, unity in variety, ‘monarchical’ subordination (not of parts under the whole, but of certain parts under some other, as the unaccented beneath the accented beat in rhythm), — do not call for special comment. The analysis is much less detailed here than that of Köstlin. The brief general discussion of pleasure which is prefixed to the consideration of the formal principles, is excellent. For while recognizing fully the pleasurable aspect of æsthetic feeling, the author does not commit the fallacy of hedonistic æsthetics (as of hedonistic ethics), and regard the æsthetic consciousness as solely a species of pleasure. Pleasure is an accompanying symptom of a total process, viz., a process of apperception in which there is on the part of the object a laying claim to our attention, a power to interest, and on the part of the mind a turning to the object and an apperception of it with especial ease. Pleasure is not the cause of the interest, nor is the apperception the cause of the pleasure; rather pleasure “is the accompanying symptom of the ease with which the mind turns toward its object in such cases.” Otherwise stated, pleasure follows in proportion as psychical processes are ‘natural’ to the mind, or as they give the mind opportunity to evince itself. This does not differ essentially from the two sources of æsthetic pleasure as given by Köstlin, stimulation and ease of apperception; or from Kant’s ‘furtherance of (psychical) life in a free play of the mental powers.’ Indeed, it is matter for congratulation if certain of the more fundamental principles are gaining an assured acceptance. But Lipps’s formulation and enforcement of the position is especially good.

The heart of the book is in the second section, for here we have the doctrine of *Einfühlung* introduced. Objects æsthetically valuable have not merely a form; they have also a content. If one would know what content is valuable, let him reflect on what he values in his own experience. He will find this to be his activity, his ‘doing.’ The feeling which accompanies this activity of the self is pleasurable self-feeling or, otherwise, a *Selbstwertgefühl*, — feeling in which one experiences the value of self. So far as this feeling is referred to my own self, it is not æsthetic value, for æsthetic value is value of some object distinct from me. But inasmuch as what I value in myself I value also when I find it in another, it follows that when I find life actual or potential in another I value it. This is the essence of æsthetic feeling. “All enjoyment of beauty is an impression of the quality of life, actual or potential, which lies in an object; and all ugliness is in its ultimate nature, negation, defect of life, obstruction, pining away, destruction, death” (pp. 96–102). The psychology

of the process by which I enter into the movements or other life expressions of objects is to be distinguished from "inner imitation," for in *Einfühlung* proper there is no copying of an already present image. Nor is the process that of imagining the motions, etc., of the object. It is rather an experiencing of the real activities which necessarily belong to an object of the imagination. It may be designated as 'Sympathy,' and the object regarded as expressing life (or its antithesis as in the ugly) may be called a 'Symbol.' Subsequent chapters apply this conception of *Einfühlung* to bodily forms and movements, and to the forces and objects of nature, to spatial forms, and to the other æsthetic fields indicated in the main divisions of the book as already given. It is evidently easier to make the application to the human body than to the colors; it is evidently easier to find in rhythm and music a flow of feeling than to prove that the principle is exclusively responsible for all the æsthetic value of tones and discords; but there is manifest everywhere psychological acumen and æsthetic judgment.

What is to be said, in general, as to the principle of *Einfühlung*? It is, in the first place, scarcely to be disputed that the most profound æsthetic values involve the humanly significant as their content. In the second place, the formal aspects of beauty, as noticed above, have quite generally been traced to their power to stimulate or promote 'life.' In these two phases of the problem, the question would be chiefly as to the appropriateness of the term used to describe the process. One objection to this term, in my opinion, is that it seems almost inevitably to convey the meaning of a sort of transfer of feeling from the self over into the object, and, in the case of æsthetic forms, of a conscious recognition of freedom, ease, or other life qualities in a geometric form. Lipps tries to avoid these implications in his explanations, but the word certainly suggests them. The term 'sympathy' is liable to a similar objection. There is doubtless feeling in the æsthetic psychosis; this feeling further is regarded as the property of the object; so far we all agree since Kant. The point still at issue is as to the psychology of this attitude, and I do not think this point can be satisfactorily settled without, on the one hand, a fuller discussion of the relation of the æsthetic to the other attitudes, theoretical and practical, and, on the other hand, a consideration of the social aspects of the judgment.

The section dealing with geometrical forms presents views and analyses already published by the author. The section on rhythm, so far as I am aware, is new, and is admirable in its analysis. Here,

too, some reference to the work of Bücher is necessary to bring out the full significance of rhythm as a life activity. No such reference is made, however. In fact, the author makes no citation in the volume of any writings except his own, and refers to no writer by name, so far as I have observed, although there is occasional allusion to other theories. From the treatment of musical tones which makes them rhythms, and makes their harmony depend upon coincidences of rhythms, I think most psychologists would completely dissent. Psychological analysis seems here to be sacrificed to a theory.

The book is certainly to be characterized as a highly important and valuable contribution to the scientific treatment of æsthetics. It should do much to lift the study out of the region of vagueness into the light of clear and definite method. The second volume, which the author hopes to present soon, is to treat æsthetic contemplation, especially of the work of art, and to give an introduction to the theory of the particular arts, so far as this has not been given in the present volume.

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*Ethik : eine Untersuchung der Tatsachen und Gesetze des sittlichen Lebens.* Von WILHELM WUNDT. Dritte umgearbeitete Auflage. Zwei Bände. Stuttgart, Verlag von Ferdinand Enke, 1903.—pp. x, 523 ; vi, 409.

“The third edition of this work is in many places entirely rewritten, in others supplemented by additions. Least material are these alterations in the First Part. Aside from the consideration given to the more important recent literature in the history of religion and the history of custom, I have here confined myself to working out more clearly the views as to the relation of myth, religion, and custom to each other and to the development of the moral life. The Second Part is almost completely rewritten. It appeared to me desirable to change this part from a history of philosophical ethics, which it essentially was before, rather into an actual history of moral views of life, and accordingly above all to trace the relations of philosophical systems to contemporaneous culture-movements. In the Third Part the doctrine of the will has been revised in conformity to the advances of recent years and to the partial change in my own views on this subject. Consequently the discussions of moral motives, ends, and norms have undergone numerous alterations. In the last part, finally, I have endeavored to substitute for the merely general hints, given in the previous editions, on the *practical* questions of the moral life, more

detailed and definite discussions. If knowledge of the truth is the goal of every scientific work, whatever sphere it may belong to, then for the ethicist, if he is to do justice to his subject, this aspiration is naturally combined before all with the duty of truth to himself and of unreserved frankness in the expression of his convictions. I have earnestly tried, especially in the discussions of the religious and social problem, to fulfill this duty" (I, p. vi). This "Preface to the Third Edition" gives an accurate statement of the relation of this edition to the preceding ones.

The First Part of the work, therefore, retains all that has been characteristic of this division of the book. We find here the same definition of religion. "*All ideas and feelings are religious, which refer to an ideal existence, an existence that fully corresponds to the wishes and requirements of the human mind*" (I, p. 50, Eng. translation of the 2d edition, I, p. 59). It is easy to see how with this definition of religion there should be such an intimate relation between religion and morality as is contended for in this book. The two would be to a large extent identical. But surely the definition is both too broad and too narrow. It would give a religious character to all utopian fancies, while it confessedly excludes fetichism and spiritism from the realm of religious phenomena!

Again, we find it still maintained that "in the great majority of cases, *religious* ideas appear to constitute the primary sources from which custom has been derived" (I, p. 113; English translation of the 2d edition, I, p. 134). This seems a strange statement when for Wundt what differentiates custom from usage is the obligatoriness of the former. Surely in civilized countries a very large part of the current customs, that is, of obligatory usages, can be traced back to sources that have no religious significance. The wearing of trousers by us men is about as obligatory as the giving of tips. Wundt considers the latter a *custom* with a religious origin. The former is by implication merely a *usage*, for it does not have a religious origin. At least it would be interesting to have Wundt give us the religious history of culottism.

But while there may be many objections raised to the details presented in this part of Wundt's work, it remains true that we have here one of the most valuable discussions to be found anywhere of the facts of the moral life.

The Second Part, which deals with the development of moral views of the world, is the one which will attract the most attention to this edition. Those acquainted with the former editions of the *Ethik* have

probably felt that the Second Part was most unsatisfactory. Neither the beginner nor the advanced student could get from it what he needed. In this edition, however, the Second Part becomes of the greatest value both to the specialist and to the general reader. This change of value is brought about by changing the subject-matter treated. As the *Preface* says, we have here no longer a history of ethical systems but a history of moral views of life and a statement of the connection of these views with the contemporary movements of culture. The result is that the student finds here an invaluable help toward the understanding of the historical situations that gave rise to different ethical theories. This is especially true of the second and third chapters, dealing with the Christian and the modern moral theories.

In treating of ancient moral theories, Professor Wundt seems to lay too much stress on the social solidarity of Greek life, while as a matter of fact the Greek was of all men the most individualistic. It is true that for the Greek the political side of life was all-important. His activity was a social activity; and yet for all that he was a transcendent egoist. Society was for him rather a means than an end. The sophists, therefore, were probably truer exponents of the Greek point of view than were Socrates and Plato. At any rate, it would be hard to see how the selfish Greek could have found his views of life truly reflected in Plato's *Republic*. In Aristotle we meet with what is perhaps a truer representation of the Greek attitude. Here we see man regarded as indeed a political animal, but in spite of this fact we have in the *Nicomachean Ethics* a predominantly individualistic theory of morality. Aristotle's ideal man was one who of course lived a social life, but also one whose aspirations were decidedly self-centered. Devotion to the state or to humanity was not one of the virtues discussed in this treatise on ethics.

The chapter on the Christian view of the world and the changes it underwent is a masterpiece of clearness and conciseness. The life-ideal of primitive Christianity is presented as differing radically from that of modern Christianity. Here Professor Wundt follows the leading historians of this great movement, who decline to take the words of Jesus in the metaphorical sense that orthodoxy gives them. This view has been made familiar to the English reader by the translations of Tolstoy's religious works. "One can well agree with Leo Tolstoy in regarding those wonderful chapters of the Gospel of Matthew, in which Jesus preaches with peculiar emphasis his doctrine to the assembled multitude, as the essential contents of this new life-ideal;

and one can also admit that he is right — whether or not his conception here and there is erroneous in detail — when he says that these words must be taken just as they are written, literally, without arbitrary re-interpretation" (p. 330). In this sermon on the mount Wundt sees no brand-new moral ideas. The Stoics had long ago already praised love of neighbor, kindness without reference to recompense, helpfulness, and mercy without respect to persons, as the highest virtues. "In two respects, however, this primitive Christian ethics was a new, peculiar phenomenon. One was the unconditioned, absolute character of these moral commands, repudiating all external limitation. . . . This gives to primitive Christian morality that homely sublimity with which neither the dialectical subtilty of the Platonic Socrates nor the rhetorical pomp of the Stoics can compare. It gives to this morality, however, at the same time, the impression of an ideal of life which can arise and be approximately carried out only in a narrow community of like-minded men, and which, the moment the attempt is made to realize it in intercourse with the larger world outside, must lose its validity in face of the compelling power of reality. The second feature that distinguishes this ideal of life is that it is the immediate expression of a religious feeling that fills the whole man. That saying of Jesus to the scribe: Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength: this is the first commandment. And the second is like, namely this, Thou shalt love thy neighbour as thyself (Mark 12, 30), — this saying throws a clear light on the overflowing religious enthusiasm, in which the love of God and the love of neighbor fuse into a single feeling of religious devotion" (pp. 330-1). Ideals, however, can arise only where there is faith in the possibility of realizing them. Such faith in such ideals could never have grown up in the soil of mere moral demands, or even of a general belief in providence like that of the Stoics; it could only have arisen on those confident hopes that filled the first Christians. These hopes centered in the Messianic idea. "Without this firm faith in the coming Messiah, the ethics of primitive Christianity would never have been what it is: the life-ideal of a man who completely forgets himself in his devotion to humanity. But of course an ideal which owes its origin to the delusive phantoms of a highly developed need of happiness, cannot itself possibly remain free from the turbidities of its source. Over against the extremely intense moral force that is here operative there stands an extremely aggravated selfishness, an insatiable need of happiness which would infinitely enhance the pleasure of



life. However, just this is the psychological secret of human nature, which yet is no secret but is bound up with its most every-day weaknesses and excellences, the secret that the good has the evil as its presupposition. This birth of the highest from the lowest, of the most exalted ideals from the vulgarest (*gemeinsten*) motives — from delusion and selfishness — this is no mysterious conflict of superhuman beings or of cosmic forces, as mythology and mysticism pictures it, but it is the work of an orderly psychological process, which is peculiar to the human consciousness from its simplest to its most developed activities. As the contrast of the feelings make sour every-day life tolerable, and, if luck will have it, pleasant, so it lends its help in the great crises of history to the new creations of the moral consciousness. It is the same principle of the heterogony of ends that, just because it is bound up with the most intimate nature of the psychic life, has met us already at all the stages of religious and moral development, — it is the same principle which here, at this deeply significant crisis of spiritual history, meets us again with overwhelming power just because of the immense force of the contrasts which it binds together" (I, pp. 332-3).

The account Professor Wundt gives of the influence of Graeco-Roman culture upon Christianity follows that given by Harnack in his great work. The general reader will find here an excellent succinct statement of the development of the Christian thought and practice through this formative period of Catholic doctrine.

The Christian middle ages are discussed in eighteen pages, and here again the impression left is clear and accurate. The reader does not get the details of the ethical views propounded by the mediæval thinkers, but he does obtain very clarifying statements of the general tendencies of the time, and of the spirit that pervaded these thinkers. The same holds true of the sections devoted to the Reformation and to the Renaissance.

In the chapter on modern times, the general characterization of broad tendencies is curiously blended with more or less detailed exposition of certain ethical systems. It would seem as if here Professor Wundt had lost somewhat of his fine sense of proportion. Thus, while he gives to Hegel only three pages of his work, he gives to Krause four and to Schleiermacher nine pages. Comte gets a bare five, but Nietzsche gets almost ten. Leslie Stephen has a page, while Sidgwick is dismissed in one line of a footnote. Butler, like Sidgwick, is relegated to a short footnote, and there we learn that before Paley's time Butler advocated, somewhat more temperately than Paley, Paley's

theological Utilitarianism! (I, p. 402). Green and Martineau are ignored.

The discussion of Hume follows traditional lines. Hume's sympathy has an egoistic basis, and his justice is also egoistic in origin (I, pp. 417-20), whereas Hume himself says, and italicises the saying, that "'tis *only from the selfishness and confin'd generosity of men, along with the scanty provision nature had made for his wants, that justice derives its origin*" (*Treatise*, Selby-Bigge's ed., p. 495).

The account of Bentham's views is evidently based on Dumont's redaction of Bentham's work, rather than on Bentham's own *Introduction to the Principles of Morals and Legislation* and on his *Deontology*.

Spencer's doctrine as to the relation between egoism and altruism seems to be taken from the eleventh chapter of the *Data of Ethics*, while the twelfth chapter, which supplements and to a certain extent offsets the preceding chapter, is left out of the reckoning. This is the only way in which one can account for the statement of Wundt that Spencer holds to the "gradual development of altruism out of egoism" (I, p. 495). The twelfth chapter of the *Data* begins with the statement that "from the dawn of life, altruism has been no less essential than egoism." Though Spencer goes on to say that "primarily it is dependent on egoism, yet secondarily egoism is dependent on it," two pages further on he makes the flat assertion that "self-sacrifice, then, is no less primordial than self-preservation." It may be difficult to get anything like consistency from Spencer on this point, but at any rate both sides of Spencer's view should be stated even if the expositor cannot reconcile them.

But in spite of these and other defects in the presentation of historical views, it may be said that for a general introduction to the history of ethics, not for an actual history of ethical theories, there is no other work to be named along with this. The reader can get from it a satisfactory conception of the intellectual atmosphere in which the individual ethical thinkers lived and worked, and which helped determine their views.

The limits of this review make it impossible to examine Parts III and IV of this treatise. The *Preface* quoted above fortunately makes it unnecessary.

Two full indices, a *Namenverzeichnis* and a *Sachregister*, make it easy to use the volumes for consultation and reference.

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## SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *American Journal of Psychology*; *Am. J. Th.* = *The American Journal of Theology*; *Ar. de Ps.* = *Archives de Psychologie*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mét.* = *Revue de Métaphysique*; *Rev. Néo-Sc.* = *Revue Néo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *R. d. Fil.* = *Rivista di Filosofia e Scienze Affini*; *V. f. w. Ph.* = *Vierteljahrschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych. u. Phys.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*. — Other titles are self-explanatory.]

### LOGIC AND METAPHYSICS.

*Deception and Reality.* A. KIRSCHMANN. *Am. J. Ps.*, XIV, 3-4, pp. 24-41.

The question: What is reality? is not a legitimate one; it is in itself a vicious circle. We are in the midst of realities and the question that confronts us is: Is there anything unreal and what is unreal? The notion that the senses deceive us is a mistaken one: the senses cannot deceive us, but our interpretation of what they give us is often incorrect. Certainty is confined to mathematical relations and to the actual, the present, content of consciousness. The perceptions in dreams, hallucinations, and optical illusions are as 'real' as those of ordinary life; their 'deception' depends on the interpretation we put upon them. The reality of an impression obviously cannot be based on the reality of the object to which it is referred. We can have certain knowledge only about what takes place in our own consciousness, but there is an unlimited sphere of *belief*. The terms 'real' and 'reality' are used ambiguously; all states of consciousness are real, but there are different kinds of reality. A memory image is as real as a perception, but in a different sense. The term 'Realism' is always misleading; for it suggests an opposite contrary to the real, and no such opposite is possible. But if you identify the real with the true, then the opposite of truth, lying, may be called unreal; but what is unreal here is still the meaning attributed to the action or words, and not the action or words as states of consciousness. The lie or untruth or unreal is never a matter of fact but a matter of interpretation. There can be nothing unreal but the product of a human lie, and hence nothing unreal without the will to produce such by lying. If we should never lie, there would be no error. Even errors in a mathematical deduction reduce to statements that some-

thing is certain or necessary which is not so. Error is so universal because men are unwilling to admit the narrowness of their knowledge, and insist on substituting the agreeable for the true. Objectivity consists in adherence to subjective truth. On the ethical side, the only sound principle is to have no principles but to act according to the sense of truth. As for pedagogy, we should have no positive ideals of education. The best method is negative and preventative,—the elimination of falsehood and error. This involves the cultivation of originality. Education to perfect truthfulness is the only pedagogical ideal we can admit; the real may safely be left to nature.

C. E. GALLOWAY.

*Die Grundlagen der modernen Physik und ihre Beziehung zu den neuesten Ergebnissen der Forschung.* W. WIEN. Deutsche Revue, XXIX, 1, pp. 39-51.

Physicists of the last generation were fully convinced that such scientific generalizations as the laws of the conservation of energy and the persistence of matter were ultimate and universally valid propositions. This point has become a matter of doubt, however, among scientists of the present, especially as a result of the discovery of the Roentgen rays and the more recent discovery of the radio-active substances. Some of the emanations from these substances seem to be composed of particles whose mass cannot be more than one thousandth that of a hydrogen atom, and whose velocity is so great that the usual formula for kinetic energy ( $E = \frac{1}{2}MV^2$ ) seems not to hold. Already it has been suggested that the concept of electric charge can be substituted for that of mass, thus reducing mechanics to a branch of electromagnetism. For epistemology, these results are not less important than for science. They seem to show that our so-called laws of nature are merely pictures which we make to represent nature, and which depend on inner logical relationships as much as on external facts. They are not ultimate, but mere approximations to the truth which science is continually approaching.

G. H. SABINE.

*De la vérité : remarques logiques.* A. NAVILLE. Rev. Ph., XXIX, 5, pp. 449-461.

True and truth are used in many senses. The ordinary logical definition, however, is the agreement of thought with its object, its resemblance to such object. "The mind of the scientist should be a mirror of the world." To such a definition objection arises. Thought, since the 'object' must itself be thought, can resemble only thought, not things. Even in the mental and moral realm, the objection holds good; in the mind of the observer psychological states cannot be reproduced. Accordingly, there are two kinds of truth, relative and absolute, the former being the relation between object and perception, the latter that arising between perception and remembered image. The one is of sensation; the

other of thought. Error in the former case consists in the observer not being in the most favorable circumstances for scrutiny. What, now, are the criteria of truth? Sigwart distinguishes two, — necessity and universality. But these are not sufficient. Both in the physical and moral world one must add, "for the normal subject placed under normal conditions." Still, this does not bring satisfaction. The normal impression of the normal person is frequently, as in case of a stick held under water appearing broken, at fault.

ARTHUR J. TIETJE.

*Energetik, Mechanik, und Leben.* E. VON HARTMANN. Z. f. Ph. u. ph. Kr., CXXIV, 2, 128–154.

Energetics in its fundamental laws embraces only net results and leaves the precise mode and duration of the physical process undetermined. In a qualitative energetics—to which the several modes of energy are ultimate—the defect is irremediable; a non-qualitative energetics may remedy it by resort to molecular mechanics. If the constancy of energy in each axis of tri-dimensional space be granted, an adequate mechanical energetics is possible; but this principle is derivable from that of the conservation of energy, only on the supposition that all forces are energetic. There may, however, be non-energetic, uncentered forces, the lines of whose simultaneous manifestations do not meet in a point; which have no definite position in space, so that potential energy has no meaning in connection with them; and which can never give rise to the appearance of matter. Non-energetic forces may be active in the turning of compound atoms or molecules, and in the displacement of the component parts of unstable chemical compounds. The assumption of such forces gives rise to an energetics that is adequate to the explanation of the phenomena of vital autonomy. The sole supremacy of mechanical laws is then restricted to inorganic nature; in organic nature they form the necessary groundwork upon which vital autonomy plays. The question is raised as to the relation of organic evolution to the law of the deterioration of energy. Plasm-organisms could only arise when the temperature of the earth's surface fell below the congealing point of albumen; they will cease to exist when it sinks permanently below the freezing-point of water. The increasing habitability of the earth is followed by a higher and higher biological evolution. The lowest organisms are the first to come and the last to go, on account of their greater power of adaptation. In man the faculty of organic adaptation is least, and technical adaptation takes its place. Neither adaptation is without absolute limits. We may safely assume that as the conditions of life on the earth deteriorate, first the highest organisms, as soon as their improved arts cannot make good the loss of light and heat, will die out; then the lower; until finally the unicellular organisms will be left alone. The 'increase of psychical values' has thus its presumably certain limit. Even if other than plasm-organisms—as flame or silicon-

organisms — ever existed, they surely had their absolute limits also ; and on the frozen earth that puts an end to plasm-organisms, no other kind will be physically possible. The possibility of life depends on three conditions : first, the absolute temperature ; second, the conversion of chemical energy into and out of other forms of energy ; third, a certain difference in the temperature of the sun and that of the earth. It may be objected, that the operation of the law of the deterioration of energy is asymptotic ; but that means that within finite time it will pass the limits of possible life. What has been said presupposes the indefinite continuance of the physical laws involved. The possibility of the contrary supposition must not be lost sight of.

THEODORE DE LAGUNA.

*Ueber die Entwicklung des Begriffs der höheren arithmologischen Gesetzmässigkeit in Natur- und Geisteswissenschaften.* W. G. ALEXEJEFF. V. f. w. Ph., XXVIII, 1, pp. 73-92.

G. Teichmüller first applied the mathematical concept of discontinuity (*Unstetigkeit*) to biology and sociology in his criticism of Darwinism in 1877. He pointed out that continuity implied discreteness, and that, since plants and animals are not *sums* but *products* of factors having different functions, we must not expect to find their different forms connected by imperceptible changes. Alexander von Oettingen, in his *Moralstatistik*, has dwelt on the necessary correlation of the natural realm of necessity and the mental realm of freedom. N. W. Bugajew has recently shown the connection between mathematics and the modern science and philosophy. Quantitative changes may be independent or dependent, they may also be continuous or discontinuous ; this last distinction divides mathematics into the two fields of *analysis* and *arithmology*. Analysis has reached an advanced stage of development in the differential and integral calculus ; but arithmology, because of its greater complication, has not been so fully worked out. By the aid of analysis, mechanics, astronomy, mathematical physics, and finally physical chemistry have developed, and our modern point of view is on the whole analytical. This method applied to biology, psychology, and sociology, has issued in the attempted exclusion of teleology from nature. But such attempts ignore the ethical, aesthetic, and religious aspirations natural to man. The higher, arithmological point of view must be taken, and this will not exclude individuality and freedom, since it does not demand absolute continuity and invariability of phenomena, and mechanical interdependence of functions. The author points out different applications of arithmology in the theory of numbers, enumerative geometry, and the arithmization of algebraic functions. Modern chemistry, with its atomistic theory and periodic system, has abandoned the analytic tendency for the arithmological. The schematism of atomistic structure in chemistry, developed independently, is yet identical with the symbolic theory of algebraic invariants. The universalism of analysis must

certainly yield to arithmological individualism in biology and sociology. Nekrassow shows that Quetelet, in his conception of the 'law of great numbers,' has disregarded the fact that an average applies only when the accidental phenomena of magnitude concerned are independent of one another. Since the law, however, yields verifiable results, a free teleological factor must be present, *isolating* human actions from one another. Human needs, not necessities, are constant. The theory of probabilities promises us more light here; mathematics as a *whole* must assist our speculation.

EDMUND H. HOLLANDS.

*The Use and Abuse of Final Causes.* G. E. UNDERHILL. Mind, 50, pp. 220-241.

Bacon's condemnation of final causes referred to the sciences of physics and chemistry, and threw no light on the significance of a teleological view in the biological sciences or in metaphysics. Spinoza regarded final causes as mere human illusions which sprang from a tendency to view the universe from the standpoint of man's convenience. Neither Spinoza nor Bacon had the biological conception of function as an end, but they were right in excluding the notion of final cause from mechanical explanations. Kant established the place of final causes in biology by drawing a distinction between external ends, or final cause as utility, and internal ends, or the functions which an organism is adapted to fulfill. The conception of internal final cause is of great value to biology, and, like any other methodological assumption, is justified by its success. It leads to an assumption of general purposiveness in nature, and of external ends in the relation of organism to environment, both of which are to be tested by their success as working hypotheses. Such assumptions, however, are drawn from the analogy with means and ends in deliberate human actions, and do not mean that nature is an intelligent cause working for preconceived ends. As to the metaphysical significance of this demand for final causes in biology, Kant argued to a rational faith in an intelligent cause, God. Further, he conceived man as, in his moral nature, independent of natural causes, and able to set for himself independent ends. He regarded man in this aspect as the supreme end of nature. Nature is the means of moral discipline, whereby man develops that power of setting ends to himself which constitutes him the highest end. Moral necessity also demands a cause outside nature which shall determine nature to that end, and postulates God as a rational Being who is guided by the idea of an end and who uses nature as means to it. Modern philosophy can better estimate the value of the conception of final cause than Bacon or Spinoza or Kant, having seen its success in biology. Like other principles which have been successful in making the world intelligible, final cause is no mere illusory hypothesis, but a constituent element in nature. Its successful scientific application is a most important piece of evidence for the unity of the active principle at work in nature and in man.

MARY WINIFRED SPRAGUE.

## PSYCHOLOGY.

*Binocular Vision and the Problem of Knowledge.* J. H. HYSLOP. Am. J. Ps., XIV, 3-4, pp. 42-59.

The phenomena of binocular vision threw a new light on the problem of space perception, which the speculations of Berkeley and Kant had left in a very unsettled state. Wheatstone showed that the perception of solidity is associated with the existence of disparate images. This solidity is not present in the retina, though we may say it is represented there. In short, we see what is not in the impression. There is an organic function for the perception of solidity in vision without having this quale present in the image. Tactual and muscular space may well become associated with the visual quale, but this involves no identification of the tactual and muscular quale with the visual. The interpretation of 'experience,' association, and 'motor' phenomena, is indifferent to this conclusion. The phenomena of upright vision indicate that we see objects as they are without any identity between the image or impression and the object. That is to say, we may have objects of consciousness which are not 'in' consciousness, and perception may transcend the states and affections of the sensorium. This seems to establish the doctrine of realism in the problem of knowledge. But this discrepancy between the percept and impression is evidence that the quale is a purely mental construction, and it may be argued that therefore the entire percept is a construction of the mind. It remains true, however, that the ideal construction may correctly represent an objective fact, though it has a purely subjective genesis not in the impression. In the tendency of individuals to adjust themselves to their environment, we find evidence of a capacity of ideal action which would represent correctly the nature of objective reality; and, in the case of upright vision, the act of perception reports the objective fact and not the subjective.

C. E. GALLOWAY.

*The Status of the Subconscious.* J. JASTROW. Am. J. Ps., XIV, 3-4, pp. 79-89.

The subconscious presents itself in two aspects: as a subliminal activity which might be consciously recognized, and as an organized aggregate of such activities. The problem begins with subconscious sensations and the stimuli necessary to arouse them. The psychophysical process accompanying the existence of the imperceptible sensations is probably different only in degree from that which accompanies the perceptible. Thus there is no arbitrary boundary between the conscious and the subconscious, and the imperceptible impressions influence the behavior of consciousness. The activity of mind is broader than the account of it given by direct perception, and the meaning of the term 'consciousness' should be extended to cover the subconscious forms of psychical activity. The subvoluntary elements, which are real and typical factors of conduct, we refer to 'autom-



atism' and 'habit.' This does not fully explain them but shows where an explanation must be sought. If we could explain memory and sensory and motor habit, the problem would be solved. Psychology is as intimately concerned with the subconscious as with the conscious, and all mental activities must be interpreted with reference to both phases of the psychic life.

C. E. GALLOWAY.

*La conception générale de l' association des idées et les données de l'expérience.* H. PIÉRON. Rev. Ph., XXIX, 5, pp. 493-517.

The current theory of the association of ideas has never been adequately refuted; experiment alone can truly reveal its fallacies. These are mainly four. To say that an idea always or even usually evokes a simple idea is false; frequently in the course of experiments the ideas evoked, especially in the case of introspective subjects, were highly complex and remote. Different persons, moreover, responded to the same inductive word with different associations (occasionally, as with a mentally idle invalid, with unintelligible ones, *e. g.*, philosophy — to sing, butter — to sleep, teeth — table); similarly, the same subjects, at different periods, and among different surroundings, answered with widely different associations. In the third place, hesitation, not merely at ambiguous inductive terms, such as *goutte*, but at very ordinary definite ones, such as *fumée*, was visible; in the last-mentioned instance the mind of the subject halted between pipe, cannon, chimney. Finally, the existence in the hypothetical idea-chain of gaps and reversions incontestably disproved the current theory. Negatively, then, the experiments have established that there is no fixed chain growing link by link; associations follow habits of mind, occupations, interests, sometimes nothing at all. Positively, results were not so good. Evidently for association of ideas 'attraction of ideas' should be substituted. The inductive term, "radiating," attaches itself to a system, and to that part of a system determined by the personal equation, time of life, environment, etc. Of the laws governing this 'attraction,' little can be said as yet. Quantitatively, "the value of attractions will be proportionate to the number and to the convergence of directions of various forces." Qualitatively, "two states that have already coexisted in consciousness so as to form two parts of the same systematic group, will tend to attract each other, thus establishing an analogous group, the strength of attraction varying as the coherence of the first group, and as the number of times the ideas have appeared united in the same system."

ARTHUR J. TIETJE.

*Psychology on the 'New Thought' Movement.* JOHN H. NOBLE. The Monist, XIV, 3, pp. 409-426.

In this article the author gives, without criticism, an account of the discussion of the 'New Thought' movement in Professor James's *Varieties*

*of Religious Experience.* This movement is regarded by Professor James as belonging to the general tendency toward 'healthy-mindedness,' or a deliberately adopted attitude of optimism, which, in his opinion; is psychologically reasonable. The rapid spread of the 'New Thought' among the American people is due chiefly to its practical appeal. Its speculative side, which is the aspect of interest to psychology, rests on the same basis as does all religious experience, — the existence of a dual nature in man. All religions agree in the belief in a higher or spiritual nature in man, which is in direct relation to a Divine Order, and in the possibility of escape from evil by habitually living in harmony with this higher nature. The relation of the 'New Thought' to modern psychology is found in the identification of this higher nature with the subliminal consciousness. By relaxation, which is a practical recognition of the union of the higher self with the Universal Mind, the 'New Thought' asserts that it is possible to obtain divine help, and to gain a revelation of truth transcending ordinary knowledge. As a religious practice, this is not new, but is similar to 'conversion' and to various phenomena of mysticism found throughout religious history. Psychologically, relaxation means a shift of the center of the field of consciousness, which allows subliminal processes, hitherto inhibited, to cross the threshold. An analogous experience is the recovery of a forgotten name, when the direct effort to recall it is relaxed. This attitude of relaxation, even if admitted to be merely a subjective condition, has marked effects upon action and endurance, and must hence be regarded as an important biological function. But while psychology affirms the existence of a subliminal consciousness, and emphasizes its importance as a factor in experience, it offers neither proof nor disproof of its relation to a Divine consciousness.

GRACE MEAD ANDRUS.

#### ETHICS AND ÆSTHETICS.

*La science positive de la morale.* G. CANTECOR. Rev. Ph., XXIX, 3, pp. 225-241; 4, pp. 368-392.

The title of this article suggests one of the most interesting of recent movements, as represented by MM. Lévy-Bruhl, Durkheim, Wundt, Bouglé, and Simmel. According to the first of these, morality is a political or pedagogical art, its object being society or the individual. But really this presupposes the true morality of which an account is to be given. Conflicting ends necessitate choice, and this, in turn, deliberation, a hierarchy of goods, a criterion of ends, and moral formulæ. The criterion is the concept of the *summum bonum*, the formulæ are the moral laws. Erroneous moral theory no more destroys obligation than an erroneous theory of light alters the retinal sensation. Since reason and instinct may conflict, moral rules, to have any validity, must be based on the acknowledged authority of reason to arbitrate in conduct. Traditional morality has only

the appearance of real existence. All the moralists of a given age give practically the same precepts, yet the precepts of one age are not those of another. Even if the moral idea could be determined speculatively, this would not prove the resulting conception to be either practically applicable or obligatory; abstract reason is as incapable of producing the form as the matter of morality. It is not abstract man, but men, to whom morality applies. Modern moral theory ascertains rather than constructs. Duty is only an abstraction, not a '*fact of reason*'; theory and logic do not confer the character of reality or of obligation, any more than they alter the situation of an object or act. Moral laws are imposed upon individuals by the material and moral sanction of society. It is this sanction and not reason which gives birth to obligation. Thus an action is not obligatory because good, but good because obligatory. Duty is imposed by custom and social inertia. Tendency is not reason, yet psychology shows the former to be the source of action. The deliberative consciousness is concerned with means; from it we learn, not what we must reasonably wish, but how to fulfill our (possibly irrational) inclinations. The conclusion that reason imposes an ideal upon us is falsely reached by arguing that we first desire a thing because it is beautiful, and then think it is beautiful because of the intensity of our desire. The scientific analysis of morality originated in German historicism and French positivism, in the absorption of the individual in society, and in the historical study of his rights. An intellectual and a social factor are here involved.

ANNIE D. MONTGOMERY.

*The Coming Scientific Morality.* GEORGE GORE. *The Monist*, XIV, 3, pp. 355-377.

Despite the apparent lack of relation between morality and the fundamental principles of mechanical science, the only permanent basis for morality and guide for human conduct are to be found in the principles of universal motion and universal causation. Evidence has shown that all bodies are in a state of constant internal motion involving conversion of energy. In man, this conversion of energy, particularly in its relation to similar action in other human beings and throughout the environment generally, produces, through the medium of the nervous system, consciousness and the phenomena of morality. Thus man's moral life is inexorably governed by material necessity, and the rate of human progress is as definitely fixed as the speed of the celestial bodies. Mind or soul is not a distinct entity, but is merely the collection of faculties termed consciousness, observation, comparison, etc. It is a species of life, which may in turn be defined as a kind of motion, viz., motion in organic structure. Wherever this exists, questions of morality arise. Moral and immoral acts are as much cases of cause and effect as is the motion of a steam-engine, and are apparently less certain only because more complex. Since all men act under compulsion, even in committing crime, they should not

be held entirely responsible for such acts. 'Good' is that which serves some useful purpose, not merely to mankind but to the universe. 'Evil' is the unjustifiable infliction of pain or injury on sentient creatures. Pain in itself is not an evil, but is merely a sensation which is feared and disliked. The problem of evil, although complex, may be solved upon recourse to scientific principles. Viewed scientifically, the universe is seen to be perfect and to contain no evil. Pain, which is commonly called evil, may in every case ultimately be proved to be necessary to human welfare. This conclusion, would, if adopted and applied scientifically, relieve human suffering, for scientific knowledge is the greatest preventive of pain.

GRACE MEAD ANDRUS.

### HISTORY OF PHILOSOPHY.

*Saint-Simon, père du positivisme.* G. DUMAS. Rev. Ph., XXIX, 2, pp. 136-157; 3, pp. 263-287.

There has been much controversy between the followers of Saint-Simon and the Comtists concerning the relation of Comte to Saint-Simon, the former holding that Comte was merely a disciple who had denied his master, the latter that Saint-Simon exercised no influence over the philosophy of Comte. The author takes the former position, and attempts to show that Saint-Simon had reached the general conception of Positivism before Comte, and that the relation of the two systems can be understood only in view of the personal relations of the two men. Comte met Saint-Simon in 1817, shortly after his expulsion from the *École polytechnique*. Attracted both by the personality of the older man and by the theories which Saint-Simon held even at that time, Comte fell under his influence and soon became his secretary and collaborator, a position which he occupied until 1825. Various letters written by Comte during this period not only attest his great admiration and friendship for Saint-Simon, but also acknowledge the latter's influence. During these years he wrote under his master's direction the third volume of *L'industrie*, and aided in the production of *La politique* and *L'organisation*. At the same time Comte also conceived and partly carried out a work whose aim was to systematize, according to Positive methods, all the sciences, including those of mind and society. While Saint-Simon's ignorance of the special sciences precluded the possibility of his influence on the details of this work, yet his general conception of a synthesis of the human sciences, which he had held as early as 1808, was undoubtedly known to Comte. For five years Comte published all his writings under the patronage of Saint-Simon, not even demanding the appearance of his name in connection with that of his master. In 1822 he refused to continue this. Instead of accepting Comte's refusal, Saint-Simon delayed the appearance of a part of *Le catechisme*; and, when he finally published it, incorporated in it some work of Comte's without

recognition of his independent authorship. The breach between them was now complete, and from this time Comte's personal attitude toward Saint-Simon changed entirely. In letters written after this time, Comte speaks in the most slighting terms of his former master, and even denies absolutely that Saint-Simon had influenced his thought. The second article is devoted to a comparison of the systems of Saint-Simon and Comte. The end which Comte proposed to himself was the establishment of a unity of thought and feeling such as had been destroyed in the overthrow of the power of Catholicism. This he believed could only be accomplished by hastening the necessary course of human progress from the theological and metaphysical stages to the final positive stage. To this end, he attempted first a synthesis of all human knowledge in a hierarchy of sciences culminating in sociology. His next aim was the organization of separate spiritual and temporal powers. The spiritual organization he hoped to achieve through the establishment of the religion of Humanity, which was modelled in form and ceremonial on Catholicism. A central industrial power, organized under a system of district administration, was to control the economic life of Europe, and eventually that of the world. Toward the end of Comte's life, the influence of Clotilde de Vaux gave his thought a more mystical and religious character, and led to a greater insistence on the love and worship of humanity. The central aim of Saint-Simon was to put an end to the moral confusion, prevalent since the decline of theological beliefs, by organizing a new spiritual power. This he proposed to attain by a council of scholars called the Council of Newton, which should represent God upon earth, and divide Europe into districts for the administration of the new religion. He also believed it was necessary to construct a synthesis of human knowledge. At first he attempted this by tracing all phenomena, including those of life and society, to the law of gravitation, although he had realized the impossibility of this before his meeting with Comte. Like Comte, he believed that all knowledge must pass through two earlier stages to the final positive stage, and that the extension of the positive method to the science of man must precede other forms of progress. He approached Comte also in the incorporation in his new religion of the moral and social philosophy of Catholicism. He also proposed the organization of industry as a separate temporal power, which should be united to science as feudalism had been related to theological power. A further similarity to Comte is found in the emphasis placed by Saint-Simon in his later years on the religious sentiment, which he defined as love for humanity. From this examination of the theories of the two men, as well as from the facts of their personal relations, it seems impossible to deny that Comte, although he developed Positivism in a way impossible to Saint-Simon, nevertheless owed all his chief conceptions to the latter.

GRACE MEAD ANDRUS.

*Professor Bain's Philosophy.* WILLIAM L. DAVIDSON. *Mind*, 50, pp. 161-179.

Professor Bain's philosophy is a study of experience from the point of view of scientific psychology rather than of metaphysics. In his analysis and description of mental processes he started psychology on new lines of research by his strict use of the physiological method. He recognized three native capacities as the basis of acquisition. First, he assumed the spontaneity of the nervous system, producing random movements. These would be afterwards avoided or sought for, as they produced pain or pleasure. Secondly, he recognized the instincts as a class of native and useful endowments which become "primordial elements" in education. This is owing to the law of self-conservation, viz., 'that states of pleasure are connected with an increase, and states of pain with an abatement of some, or all, of the vital functions.' Finally, the mind has active powers of retention and discrimination in regard to sense-presentations. This activity of the mind leads to a statement of the law of relativity, so important in Professor Bain's system, viz., 'an object has no meaning without a subject, a subject none without an object.' The structure of the intellect is built up from the three elements mentioned above, by association. Professor Bain's use of the principle of association in explaining mind thoroughly did away with the treatment of it as composed of separate 'faculties.' In explaining the higher instincts he recognized the influence of heredity. Professor Bain attempted no strict classification of the emotions, but he made use of the physiological method of description. The will arises in the control of spontaneous random movements, under motives of pleasure and pain. Its growth from this primitive beginning is explained on the principle of association. The problem of the will's freedom Professor Bain regarded as a metaphysical puzzle of small importance. In ethics, Professor Bain was a utilitarian, but was peculiar in advocating the existence of disinterestedness in man uncontrolled by the ultimate tests of pleasure and pain. The moral sense he believed to be a unique emotion, developed only under the influence of education and authority. Conscience, in his system, was derivative and analyzable, but none the less valuable ethically for that. Idealistic ethics he thought visionary. His philosophy was practical, especially in its application to education. For the purpose of stimulating philosophical research in Great Britain he established *Mind*, and made it a success. It is striking testimony to his influence that much of his psychology has passed into the commonplaces of the science.

MARY WINIFRED SPRAGUE.

## NOTICES OF NEW BOOKS.

*L'année philosophique.* Publiée sous la direction de F. PILLON : Treizième année, 1902 : Paris, Félix Alcan, 1903.— pp. 308.

Besides the customary summary of the French philosophical literature of the year, with which its distinguished editor has enriched the review, this number contains four contributions, each possessing a peculiar interest. M. Pillon treats of Bayle's critique of the metaphysical attributes of God, infinity and unity, and sets forth his own views of these attributes. M. Hamelin discusses reasoning by analogy, taking particular account of the definitions of analogical reasoning proposed by Kant, Cournot, Mill, and Rabier, and arriving at his own conception in the course of a careful criticism. M. Dauriac presents a study on the conception of the Absolute in immanent metaphysics, criticising the main theses of the successors of Kant, founded on the distinction between phenomenon and noumenon. M. Victor Brochard, finally, has here given a most admirable essay on Plato's *Laws* and the theory of Ideas, to which we shall address our particular attention, because of its intrinsic value and its especial interest at this time as marking the reaction against views but recently greeted with much enthusiasm.

Lutoslawski's *The Origin and Growth of Plato's Logic*, which was received upon its publication with so much favor even by scholars of distinction, is now rather tardily provoking a growing protest. The deluge of Platonic literature, written largely by those whose knowledge of Plato is limited and whose interpretation is of the piece-meal, literal-minded kind, invited the production of such a summary as Lutoslawski offered. But it was hardly to be expected that men who read Plato's thought rather than his language, and grasped the logic of the exposition of his doctrine, should long postpone the inevitable reply. Among the scholars who may lay just claim to an understanding of Plato, M. Victor Brochard is deserving of honorable mention.

The main thesis of Lutoslawski is that Plato in his latest works abandoned the realism of the theory of Ideas, and adopted a conceptualism essentially anticipating Descartes and Kant. Indeed, according to Lutoslawski, it would perhaps be fair to say that Plato's "real object is to eliminate the self-existent Idea altogether," as Professor Shorey expresses it (*The Unity of Plato's Thought*, p. 33, n. 216). Against this thesis, M. Brochard directs his attack, showing that the Platonic dialectic and the doctrine of Ideas are distinctly assumed in Plato's latest work, the *Laws*.

M. Brochard begins by clearly characterizing the aim and scope of the *Laws*, showing that these, as well as the personality of Clinias and Megil-

lus, the interlocutors of the Athenian stranger (compare Shorey, *The Unity of Plato's Thought*, p. 87), exclude metaphysical problems (pp. 5 ff.), and that, when Plato chances to touch upon a fundamental question (as, *e. g.*, 859 B ff.), he does it, so to speak, in self-defence (p. 8 ff.). M. Brochard then proceeds to consider in detail the following passages : 668 C ff.; 859 B ff.; 892 D ff.; 818 B ff.; and the close of Book xii.

The reference to dialectic at 965 B ff. is unmistakable (compare also Shorey, *ibid.*, pp. 86 ff. and no. 662), if one bears in mind the similar instructions of the *Republic* and the words of Plato in *Meno* 74 A and *Protagoras* 329 C. Indeed, the manifest relation of the *Laws* to the *Republic* as a whole is in itself conclusive ; for Plato, in his later treatise on legislation, does not retract the earlier theory, but merely endeavors to adapt it to the frailties of human mind and character.

M. Brochard also calls attention (p. 15, note) to the inconsistency of Lutoslawski in regarding the Ideas now as conceptions of the human understanding and now as thoughts of God, justly remarking that the latter view first appears among the Neo-Platonists. The attempt to represent Plato rather than Aristotle as the originator of the science of logic is likewise properly rejected (pp. 16 ff.).

The author suggests a classification of the dialogues of Plato in three groups (p. 16) : the first deals with the Ideas, or, if you please, the problem of *Being* ; the second has to do with the problem of *Participation* ; the third, with that of *Becoming*. No effort is made to elaborate the suggestion, but it needs only to be stated to be accepted, however much difficulty may be met in the assignment of particular dialogues to these groups. I prefer to state the same view somewhat differently. In his first period, Plato was concerned with the Socratic quest of the Idea, as of something fixed and stable, in opposition to the teachings of the flowing philosophy, whether in logic, in psychology and ethics, or in metaphysics ; in the second, he endeavored to relate the Ideas to each other and to establish a *modus vivendi* between them ; in the third and last, he made an heroic effort to mediate the Ideas to the world of sensuous reality, whether in ethics (*Republic*, *Philebus*, *Laws*) or in matters physical (*Timæus*).

M. Brochard concludes his essay with these words : " Tout ce que nous nous sommes proposé dans le présent travail, c'est de montrer que, dans sa vieillesse, Platon n'a pas désavoué les doctrines de son âge mûr ; il est demeuré fidèle à lui-même. On pourrait faire le même travail pour les dialogues de la même période, pour le *Timée* et le *Philèbe* notamment. La conclusion serait la même et on retrouverait ainsi, d'un bout à l'autre de l'œuvre de Platon, cette unité que le philosophe cherchait en toutes choses, qu'il considérait comme le principe de toute perfection et qu'il ne séparait pas du bien lui-même." What M. Brochard here says might be done was indeed being done, even as he wrote, by Professor Shorey in his splendid study entitled *The Unity of Plato's Thought*, to which occasional reference was made above. These two essays, appearing together, admirably



supplement each other, and give us ground for the hope that Plato will soon be restored to us with a deeper and fuller appreciation of the essential harmony of his central doctrines at all periods of his thinking.

W. A. HEIDEL.

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*Gesammelte Aufsätze zur Philosophie und Lebensanschauung.* Von RUDOLF EUCKEN. Leipzig, Verlag der Dürr'schen Buchhandlung, 1903. — pp. 242.

This collection of essays by Professor Eucken is divided into two main parts. The first group deals with morals and views of life, the second with problems of religion and of its philosophy. The first group is again divided into essays that deal with general questions, and essays that concern personalities.

The first essay in the first group is entitled "A Vindication of Morals." Professor Eucken shows the great influence that moral ideas have exerted in history, selecting the cases of Plato, the Stoics, primitive Christianity, the Reformation, and Kant, as illustrations of the concomitance of an emphasis on moral ideas with a deepening of spiritual insight. On this historical basis, the author argues for the creative spirit-freeing power of moral ideas, and points out the need, in the face of the present tendency to reduce morals to social custom, of a renewed emphasis on those inner and spiritual tendencies in the individual life to which morality bears witness. In the next two essays, on "The Moral Impulses in the Life of the Present" and on "The Inner Movement of Modern Life," the failure of social custom and public opinion to furnish adequate guidance for the higher life is further insisted upon, and the present divorce between the soul of civilized man and the complex mechanism of his outer life and work is made the ground for a demand for the earnest search and discovery in man of a spiritual world, which is more than merely human, and which will heal the breach between the spirit and the outer labors of our civilization. In the fourth essay, "A Speech in Celebration of the New Century," delivered at Jena, Professor Eucken connects, in a very interesting manner, the ideas and problems brought out in the previous essays with the history and present duty and destiny of the University of Jena as a center of humane and spiritual culture. The fifth and last essay in the first section is an argument for the preservation of Finnish nationality from the significance of small nations as embodiments of historical and spiritual individualities.

In section B, "Relating to Personalities," the essays of most general interest are on "Aristotle's Judgment on Man," "Goethe and Philosophy," and "Fichte and the Problems of our Time." In the latter essay the author shows very forcibly and clearly the pertinency of the elder Fichte's doctrine to the moral and spiritual problems sketched in the first section, and the saving value of his ethical philosophy of nationality in the face of present tendencies towards a materialistic and chauvinistic conception of

German nationality. Fichte's teaching is needed as a corrective to the emphasis on outward achievement as the test of national greatness and progress. The essay on Goethe is of very unusual interest. Professor Eucken gives in the brief compass of twenty-one pages a full and forceful presentation of Goethe's *Weltanschauung*. He shows that Goethe, although temperamentally hostile to the technical apparatus and procedure of school philosophy, yet had a very distinctive and well-knit view in which the stock oppositions of *world* and *life*, *inner* and *outer*, *time* and *eternity*, etc., are overcome. He finds Goethe's significance for the present in his synthesis of freedom and truth, his emphasis on the inner and spiritual life as the essence of the real universe. The last essay in this section, "In Memory of Carl Steffensen," gives an interesting sketch of the personality and work of an able and profound thinker scarcely known even by name, I suppose, to English-speaking students of philosophy.

In the second main division of the book, "On the Problems of Religion and of the Philosophy of Religion," Professor Eucken presents some of the ideas already embodied in fuller form in his *Wahrheitsgehalt der Religion*. He argues strongly for the need and affinity of the modern soul, which cannot be satisfied by the mere mechanism of science and civilization, for that realm of independent, world-transcending spiritual life which is the essence of religion. There is also an interesting analysis of Pierre Bayle as sceptic.

The work closes with an appendix on the improvement of instruction in philosophy. American teachers will be interested in the author's demand for the institution in German universities of reading courses in classical author's, *e. g.*, Plato, Aristotle, and Kant, etc.

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*Les limites du connaissable : La vie et les phénomènes naturels.* Par FÉLIX LE DANTEC. Paris, Félix Alcan, 1903. — pp. 238.

This book derives its sub-title from the first and most extended of six related essays. There is, however, an introduction devoted to Lamarck's *Philosophie zoologique*. Dantec makes a plea for more adequate recognition of Lamarck's great contribution to the theory of evolution. He estimates the value of the Lamarckian views concerning gradations of species, spontaneous generation, transformation of species; also of the denial of disappearance of species, and of catastrophes; and, finally, of the factors of evolution, use and disuse, inheritance of acquired characteristics, function creating structure, and influence of environment. Lamarck regards life as a natural phenomenon.

Dantec's essay on the place of life among natural phenomena falls into two parts. In the first chapter, "An Objective Study of Phenomena," he takes the following position. Rest is an illusion. All matter, as far as we know it, is in motion. But this motion may be molecular (*particulaire*) or

molar. The different conduct of a very small, and of a larger quantity of water, when poured on a horizontal polished surface, is taken as a proof of molecular structure. Molecular movement is the cause of those phenomena which have been attributed to physical forces. These latter are merely anthropological concepts. Chemical reactions are molecular cataclysms after which the movement of atoms goes on unnoticed as before. The erroneous idea of action at a distance has lent support to vitalism. Ether, though imponderable, is material. There is no experimental proof of freedom. Animals are transformers, not creators, of motion. Life need not be referred to an immaterial principle. The common characteristic of living beings is assimilation, which belongs to the chemical order of phenomena. It differs from other varieties of chemical reaction by reconstructing a more considerable quantity of molecules of the same kind. Assimilation is itself the source of the molar movement in consequence of which it can continue. It is, moreover, the source of specific cellular form and of the phenomena of heredity and sex. In short, all the organic manifestations are ultimately derived from assimilation. A modification of the properties of an organism is a modification of its constituent molecules; that is to say, organic evolution is a phenomenon of the chemical order.

The second chapter is "A Study of the Knowledge of Living Beings." The author generously devotes three pages to a discussion concerning the nature of knowledge. According to a possible view, a mind atom is indissolubly attached to each material atom. He does not insist on the validity of this hypothesis, but apparently considers it quite good enough for "the lovers of immaterial principles." A living being can know only those movements which directly or indirectly influence its chemical reactions. This knowledge is limited by the extent of ether vibrations, and by the atom, which we call unchangeable because we cannot know what occurs within it. We have restricted the term form to vision; but there is, probably, also an auditory and an olfactory form.

The second division of the book is a criticism of Grasset's *Les limites de la biologie*. The third division is a review of Marcel Hébert's *Le dernière idole*. Hébert correctly rejected the concept of a personal God, but wrongly substituted the idea of an impersonal divinity striving toward the better. The fourth essay, entitled "The Retrograde Movement in Biology," is an objection to Paul Vignon's theory of a central cause in the living being. "Evolution and the Apologists" is an answer to Brunetière's *Les motifs d'espérer*. The last essay demonstrates that certain knowledge of the future is impossible. The work is concluded by three appendices dealing respectively with Darwin, The Maturation of the Egg, and Heredity.

N. E. TRUMAN.

THE UNIVERSITY OF SOUTH DAKOTA.

*La philosophie en Amérique depuis les origines jusqu'à nos jours (1607-1900): Essai Historique.* Par L. VAN BECELAERE, O.P. New York, The Eclectic Publishing Co., 1904. — pp. xvii, 180.

It is an interesting circumstance that the first extended survey of philosophy in the United States should have been written by a scholar of foreign origin and a minister of religion in a communion whose tenets did not appeal to the early American thinkers, whose attention to speculative questions was so largely motivated by their theological aims. In its first form the present treatise was published as a series of articles during the years 1902-1903 in the *Revue Thomiste* of Paris. Since their original issue the author has "worked over, revised, and completed" his papers, until now he has woven them into a connected account of American philosophical thinking from its beginnings down to the present time. In the prosecution of this task, Father van Becelaere has enjoyed the sympathy and counsel of a number of American scholars in the philosophical field, — Harris, Royce, Hall, Curtis, Creighton, Duncan, Cattell, and others, and his own treatise is happily brought to the notice of students in the felicitous Introduction in which Professor Royce has at once characterized in outline the spirit of American thinking and expressed his discriminating commendation of the historical essay which follows. Father van Becelaere has also been at pains to acquaint himself with the briefer descriptions of American philosophy which have from time to time been printed in the different histories of philosophy (by ex-President Porter, for example, in the American translation of Ueberweg, and Professor Curtis in the later editions of Ueberweg-Heinze), or in the reviews (*e. g.*, by Hall in *Mind*, and Creighton in the *Kant Studien*), as well as with the occasional monographs (*e. g.*, Hall on "American College Textbooks" etc., in the *Proceedings of the American Antiquarian Society*, Jones, *Early American Philosophers*), which, together with the former, may be said to constitute materials for the more complete historical treatment of our thought. More especially, he has given careful attention to the collateral literature bearing on his subject, and by means of diligent study has succeeded in grasping the American point of view as well as in reading himself into the spirit of our classical authorities. And if he has not in every case arrived at results free from all suggestion of dogmatic prepossessions, he has so nearly approached his ideal that it may be questioned whether a native-born, Protestant scholar could have so well maintained an impartial attitude in recounting the history of movements in regard to which his own sympathies would in the nature of the case have been engaged.

*La philosophie en Amérique* divides into eight chapters, an "Epilogue," and a brief appendix devoted to the work of American thinkers who have been members of the Church of Rome. Of the principal chapters, the first four deal with the origins of American philosophical thinking and the course of its development down to the period which includes the present time. They are severally entitled: I, "L'esprit américain et la pensée spéculative;"

II, "La période coloniale, 1607-1765;" III, "L'influence écossaise;" IV, "L'influence de la philosophie allemande." The discussions comprised in this group, which amounts to rather more than one-half of the whole essay, not only describe our thought in its beginnings and earlier progress, but also exemplify the author's purpose to treat the connection of reflective thinking with the intellectual, social, and moral development of the nation. Toward their close they lead naturally over to the consideration of contemporary movements, which are recorded in a series of expositions of a little less than equal length: Chap. V, "Ecoles contemporaines — idéalistes;" VI, "La philosophie de l'évolution;" VII, "La psychologie;" VIII, "A l'heure présente." In this division of his field and organization of his material, Father van Becelaere has encountered the difficulties of arrangement which always confront the historian of opinion, and in addition certain others which are incident to the special development of American thought. In spite of the dangers which lurk in such conditions, the suggestiveness of his historical conception and its fruitfulness will be evident from the outline of the argument which the statement of these heads of chapters may serve to furnish. With omissions of a substantive sort he is seldom to be charged. Of the three suggested in the Introduction by Professor Royce, who holds that the treatise would gain by being enlarged, the most serious is the absence of a full account of recent Pragmatism, though in regard to this it might perhaps be said that the movement has attained its greatest prominence since the date with which the author's survey closes.

Concerning the historical treatment of details, a similar judgment is in place: while Father van Becelaere's work is open here and there to criticism, he is to be congratulated that he has successfully accomplished so much. Or, in the words of the Introduction, which may stand as an anticipation of the probable verdict of philosophical scholars at large: "Everywhere the earnest effort to collect the material and to present fairly the result, is evident. And we students of philosophy in America will certainly feel thankful for what we get in this study in the way of exposition and comparison; and we shall hope for more in the same spirit. We ourselves possess no study made by one of ourselves that is anywhere nearly as adequate" (p. xi).

A. C. ARMSTRONG.

WESLEYAN UNIVERSITY.

*La dottrina della conoscenza nei moderni precursori di Kant.* Per E. TROILO. Torino, Fratelli Bocca, 1904. — pp. x, 304.

The precursors of Kant whose theories of knowledge are expounded and criticised in Dr. Troilo's book are Bacon, Galileo, Descartes, Leibniz, Wolff, Berkeley, Locke, and Hume. It is evident, therefore, that almost the whole of pre-Kantian epistemology since the sixteenth century is included in the scope of his work, and it is perhaps to be regretted that it could not have been so far extended as to have included some notice of

Hobbes and Spinoza ; since, though neither philosopher can in strictness rank as a "precursor of Kant," each contributed something to the working out of the epistemological problem, and exerted an influence upon the streams of thought that finally mingled in the *Critique of Pure Reason*. Within the limits which he has set for himself, Dr. Troilo has accomplished his task well ; it would not be easy to find elsewhere in such brief compass so lucid and thorough a setting forth of these several theories of knowledge. The doctrine of Galileo, often ignored in English and German histories of philosophy, has sufficient interest to be well worth recalling. The value of Bacon's contributions to epistemology is perhaps a little overrated. The analysis and criticism of Locke's teaching is excellent, and the importance of his philosophy as opening the road which led to Kantianism is fully brought out. The treatment of Berkeley seems to the present writer a little less satisfactory, partly because he is regarded as having his place in the idealistic current of thought to which Descartes and Leibniz belonged, and it is not sufficiently recognized to how great an extent, in epistemology as well as in psychology, he was a faithful follower of Locke. The relation of Hume to Kant has been so often and so exhaustively discussed that there is not much new to be said on the subject ; but the author, who has wisely drawn his account of Hume's doctrine from the *Essays* and the *Inquiry* as well as from the *Treatise on Human Nature*, gives a clear and appreciative statement of the great sceptic's position. We are promised in the final chapter another book dealing with the adequacy of Kant's solution of the problem left to him by Hume ; Dr. Troilo's contribution to this much-debated question will be awaited with interest.

E. RITCHIE.

HALIFAX, NOVA SCOTIA.

*Lehrbuch der Geschichte der Philosophie.* Von W. WINDELBAND. Dritte, durchgesehene Auflage. Tübingen und Leipzig, J. C. B. Mohr, 1903.—pp. viii, 575.

This third edition of Windelband's work involves no very extensive revision, as but three years have passed since the second edition appeared. "Still the reader will find not only that the bibliography and literature have been carefully revised and supplemented, but also that the text has been altered in many places, where recent works seemed to require corrections, or a shortening or expanding of the treatment." Examination shows that the additions to the literature are frequent, with notable omission of many important English editions and monographs. Perhaps the most surprising is the persistence under the Kantian literature of the reference to Caird's first book on Kant (1877) unaccompanied by any reference to the more comprehensive work of 1889. The additions to the text are largely in the form of notes calling attention to recently published results of investigation. Happy the system of printing and publishing which permits such constant revision ! The permanent value of the book as a history of problems and

conceptions is evidently sufficiently appreciated to make possible the additional value of being up-to-date.

J. H. TUFTS.

THE UNIVERSITY OF CHICAGO.

*L'instabilité mentale : Essai sur les données de la psycho-pathologie.* Par G.-L. DUPRAT. Paris, Félix Alcan, 1899.—pp. 310.

This volume appears in the *Bibliothèque de philosophie contemporaine*. "One will be deceived," says the author in the introduction, "if one expects to find under this title more than an essay in philosophy. Our rôle is not so much to write a work of science as to criticise the results of science and to examine the first principles of each particular science, in order to give them a philosophic foundation." In accordance with this purpose, the book is divided into three parts. The first part treats of the general relations between the normal mind and the pathological mind; the second part reviews the facts of mental pathology; the third part is given over to practical conclusions. In the first part, the author argues against the view that mental disorders are caused solely by anatomical and physiological defects. In support of his opinion, he adduces the fact that mental disorders occur without lesions of the brain. But even when lesions are present, he holds that mental diseases have mental causes, because the biological centers are also psychic centers. Another question which the author takes up in the first part, is the meaning of consciousness. Is it to be regarded as unity or plurality, as 'thing divisible' or 'act indivisible'? He decides in favor of the latter view, on the ground that the unity of the individual comes about by the subordination of the psychophysiological centers to one another and to a unique center; and, further, because every state of consciousness is a synthesis of common elements which could not subsist alone. The result that emerges from this discussion is that the normal consciousness is systematic, while the abnormal consciousness is asystematic. The survey of the facts of mental pathology constitutes the bulk of the book. The facts are arranged under two heads: the pathology of mental functions, and the pathology of personality. Under the former head are grouped instability of intellect; of tendency; of emotion; of action. Under the latter head, diseases of personality; morbid stability; mental pathology according to sex, age, and function. In the practical conclusions, the question of the cure of mental diseases is rather hopefully discussed. Suggestion may be of use in some cases; but the most favorable time and place for correction and cure is during youth in the schools. While the author has no theory of treatment, he advocates such a system of education as will curb all tendency to instability.

H. C. STEVENS.

CORNELL UNIVERSITY.

*Ueber die allgemeinen Beziehungen zwischen Gehirn und Seelenleben.* Von TH. ZIEHEN. Leipzig, J. A. Barth, 1902. — pp. 66.

Professor Ziehen's essay, which was originally an address delivered at Utrecht, belongs to the large current literature on the mutual relations of mind and body. The author traces the history of psychophysical facts and theories from primitive times to the present. He draws the important distinction between the factual dependence of mental processes upon the brain, a dependence that has been set forth circumstantially only within the last few years, and the significance of this dependence, the problem in which present discussion centers. For the solution of the problem of significance, the author turns to modern systems of philosophy and considers the three typical answers returned by dualism, monism, and idealism. The last few pages of the essay contain his own explanation of psychophysical parallelism, an explanation based upon the Berkeleian form of idealism known at present as '*immanente Philosophie*.' The well-known doctrine of immanence, as elaborated by Avenarius, Schuppe, Ziehen (in his *Psychophysiologische Erkenntnistheorie*, 1898), and others, seeks to avoid representationism by reducing the world of objects to 'sensations' (simple sensory experiences) and 'ideas' (simple memory images). No 'extra-mental' thing is 'given' in experience, and, therefore, no final relation obtains between mental and physical phenomena or substances, such as psychophysical theories are accustomed to assume. A parallelistic law remains, it is true; but it concerns only the modifications by the brain of the world of sensation. It is thus merely a law of dependence within the homogeneous world of mind. The easy success of the theory seems to rest upon its disregard of the problem of validity in assuming the ultimate identity of the vehicle and the object of knowledge. The historical part of the essay is clear and concise, and is supplemented by a series of useful references to the literature.

I. M. BENTLEY.

CORNELL UNIVERSITY.

*Osservazioni sullo svolgimento della dottrina delle idee in Platone.* Parte I. Per G. LOMBARDO-RADICE. Firenze, Tipografia Galileiana, 1903. — pp. 91.

Exclusive of the introduction, this work consists of three chapters on the following subjects respectively: "The Value of Philological Studies" (for an understanding of the growth of Plato's system), "The Fanciful Element in Plato's Dialogues," and "The Postulates of Plato's Philosophy."

From the preface we learn, what is not suggested by the title, that the present volume is only the introduction to a comprehensive work on "Aristotle's Criticism of Plato's Theory of Ideas."

Undertaking for this purpose to write a history of Plato's thinking, the author feels called upon to determine the significance of recent philological



investigations for the question of the chronological order of Plato's writings. He takes the position that in the present state of our knowledge of Plato, the logical order, although not always a sure proof, is in general the most reliable indication of the chronological order. The attempts of Lutoslawski to determine this order by tabulating and comparing characteristics of style, with little reference to the contents of different writings, are shown to be entirely too pretentious. The historical exposition of Plato's thought must depend chiefly upon an analysis of the logical contents of the various dialogues and not upon philological data.

In regard to the fanciful element in Plato, by which he means not merely the mythical representations, but all sensuous imagery, he repudiates Teichmüller's assumption that this element is generally a pedagogical device, as the view implies that the poetic imagery of the Dialogues is the symbolical expression of convictions already definitely attained. He also regards as inexact Zeller's view that the myths are employed to supply "*eine Lücke der wissenschaftlichen Erkenntniss*," as this formula is not applicable to the greater part of the fanciful element, describing in fact only the imagery employed to portray the states of the soul and the relation of the soul to the ideas. The author shows that, on the contrary, this element in the Dialogues represents the first step in the solution of a problem.

In the Theætetus, which he calls both the last of the Socratic and the first of the Platonic dialogues, he finds the most elementary form of Plato's doctrine of knowledge, it being the foundation for all the different phases that his doctrine subsequently assumes. Natorp and Lutoslawski, who find in Plato's description of sensation and thought, not a doctrine in embryo merely, but a virtually complete anticipation of Kant, have, as the author shows, read into Plato much more than can legitimately be found there.

The work is evidently the fruit of a protracted and independent study of Plato's writings and of the best recent literature on Plato.

E. E. POWELL.

LANCASTER, PA.

*Schillers philosophische Schriften und Gedichte (Auswahl). Zur Einführung in seine Weltanschauung.* Mit ausführlicher Einleitung herausgegeben von EUGEN KÜHNEMANN. Leipzig, Verlag der Dürr'schen Buchhandlung, 1902. — pp. 328.

Kühnemann's is not a new name in the field of Schiller literature, being known especially through his *Kants und Schillers Begründung der Ästhetik*, and he comes eminently qualified for the work he has here undertaken. The book before us, Number 103 of the "Philosophische Bibliothek," is a companion volume of F. A. Lange's *Introduction and Commentary to Schiller's Philosophical Poems*, and will be welcomed by those who are interested in the more strictly philosophical writings of the German poet. It contains reprints, in modern orthography, of "Über Anmut und Würde," "Über die Ästhetische Erziehung des Menschen," "Über das

Erhabene," "Das Ideal und das Leben," "Über naive und sentimentalische Dichtung," and "Votivtafeln." There is prefixed an introduction of ninety-seven pages, in which the author outlines, in a charming style but with a firm hand, the leading points of Schiller's ethical and æsthetical views; his treatment of the poet's relation to the Kantian philosophy is pretty much along traditional lines. This introduction will be a welcome aid to those not familiar with Schiller's terminology and treatment of philosophical subjects, and it stimulates interest in the essays themselves not a little. The volume contains a full index both of names and topics and a table of contents.

EMIL C. WILM.

CORNELL UNIVERSITY.

*Lezioni elementari di psicologia normale.* Di N. R. D'ALFONZO. Seconda edizione. Torino, Fratelli Bocca, 1904. — pp. 192.

This book exhibits those qualities of freshness of treatment and succinctness and lucidity of style which characterize the other writings of Signor D'Alfonzo. The guiding thread of which he makes use in leading his students through the labyrinth of psychological phenomena is the constant and necessary correlation of the conscious process with its physical basis, the psychical life being treated throughout as the essential function of the organism. At the same time, we do not discern here that materialistic bent which so often leads to the depreciation and minimizing of the value and significance of the mental factor. The account given of the development and functioning of the nervous system is extremely clear, and provides the beginner with all the information necessary to entering upon a study of recent discoveries in physiological psychology or to a comprehension of its problems. The discussion of the higher forms of conscious intelligence and will is very good, but if those subjects had been treated with greater fullness, the book would have gained in interest for the general reader.

E. RITCHIE.

HALIFAX, N. S.

The following books also have been received :

*Elements of Metaphysics.* By A. E. TAYLOR. London, Methuen & Co., 1903. — pp. xvi, 419. \$2.60.

*Hobbes.* By LESLIE STEPHEN. New York, The Macmillan Co., 1904. — pp. v, 243. \$0.75.

*A Treatise on Cosmology.* Vol. I. By HERBERT NICHOLS. Cambridge, Mass., Herbert Nichols, 1904. — pp. 455. \$3.50.

*From Epicurus to Christ: A Study in the Principles of Personality.* By WILLIAM DEWITT HYDE. New York, The Macmillan Co., 1904. — pp. viii, 285. \$1.50.

*Faith and Knowledge.* By W. R. INGE. Edinburgh, T. & T. Clark, Imported by Charles Scribner's Sons, 1904. — pp. x, 292. \$1.50.

*Selections from the Literature of Theism.* Edited by ALFRED CALDECOTT and H. R. MACKINTOSH. Edinburgh, T. & T. Clark, Imported by Charles Scribner's Sons, 1904. — pp. xiii, 472.

*The Theology of the Reformed Church in its Fundamental Principles.* By WILLIAM HASTIE. Edinburgh, T. & T. Clark, Imported by Charles Scribner's Sons, 1904. — pp. xvi, 283. \$2.00.

*The Theory of Business Enterprise.* By THORSTEIN VEBLEN. New York, Charles Scribner's Sons, 1904. — pp. vii, 400. \$1.50.

*The Miracles of Unbelief.* By FRANK BALLARD. Edinburgh, T. & T. Clark, Imported by Charles Scribner's Sons, 1904. — pp. xxviii, 382. \$1.00.

*The Origin and Economy of Energy in the Universe.* By ISRAEL KAUFMAN. New York, The Chief Press, 1904. — pp. 422.

*Scientific Order and Law as Traced by the Method of Christ and Conceived to be the Revealed Will of God.* By JOHN COUTTS. London, National Hygienic Co., 1904. — pp. viii, 520.

*Proceedings of the Aristotelian Society, 1903-1904.* London, Williams & Norgate, 1904. — pp. 170. 10s. 6d.

*The University of Colorado Studies*, Vol. II, No. 2. Edited by FRANCIS RAMALEY and ARNOLD EMCH. Boulder, Colo., The University of Colorado, 1904. — pp. 67-154. \$0.50.

*At the Deathbed of Darwinism.* By E. DENNERT. Burlington, Iowa, German Literary Board, 1904. — pp. 146. 0.75.

*Ants and Some Other Insects.* By AUGUST FOREL. Chicago, The Open Court Publishing Co., 1904. — pp. 49. \$0.50.

*Einführung in die Psychologie.* Von ALEX. PFÄNDER. Leipzig, J. A. Barth, 1904. — pp. vii, 423. M. 6.

*Beiträge zur religiösen Psychologie: Psychologie und Gefühl.* Von G. VORBRODT. Leipzig, A. Deichert, 1904. — pp. v, 173. M. 3.60.

*Aristoteles' Metaphysik.* Übersetzt und mit einer Einleitung und erklärenden Anmerkungen versehen von EUG. ROLFES. Leipzig, Verlag der Dürr'schen Buchhandlung, 1904. — pp. 216. M. 2.50.

*Das Problem des Ich.* Von MAX WALLESER. Heidelberg, Weiss'sche Universitäts-Buchhandlung, 1903. — pp. vii, 88.

*Naturwissenschaft und Weltanschauung.* Von MAX VERWORN. Leipzig, J. A. Barth, 1904. — pp. 48.

*L'intelligence et le rythme dans les mouvements artistiques.* Par MARIE JAELL. Paris, F. Alcan, 1904. — pp. 172. 2 fr. 50.

*Index philosophique.* Première Année, 1902. Par N. VASCHIDE et VON BUSCHAN. Paris, Chevalier & Rivière, 1903. — pp. vi, 345.

*L'immaginazione creatrice nella filosofia.* Per ANTONIO MARCHESINI. Torino, G. B. Paravia e comp. — pp. 131.

## NOTES.

The International Congress of Arts and Sciences met in connection with the Universal Exposition at St. Louis, September 19 to 25. The program was carried out as detailed in the last number of the REVIEW.

Dr. J. W. Baird, last year research fellow of the Carnegie Institution, has been appointed instructor in psychology at Johns Hopkins University.

We give below a list of the articles, etc., in the current philosophical journals :

MIND, No. 51 : *F. H. Bradley*, On Truth and Practice ; *B. Russell*, Meinong's Theory of Complexes and Assumptions (II) ; *J. S. Mackenzie*, The Infinite and the Perfect ; *H. G. Wells*, Scepticism of the Instrument ; *T. M. Forsyth*, The Conception of Experience in its Relation to the Development of English Philosophy ; Critical Notices ; New Books ; Philosophical Periodicals ; Correspondence.

THE MONIST, XIV, 4 : *O. F. Cook*, The Biological Evolution of Language ; *I. W. Heysinger*, On some Conceptual Errors Relating to Force and Matter ; *Enno Littman*, The Stele of Teima in Arabia ; *A. H. Godbey*, The Front Door of Palestine ; *Maurice Bloomfield*, Cerberus, the Dog of Hades ; *F. W. Fitzpatrick*, Justice ; *L. Arréat*, An International Auxiliary Language ; *Editor*, Pasigraphy — A Suggestion ; *L. Arréat*, Literary Correspondence — France ; Criticisms and Discussions ; Book Reviews.

THE AMERICAN JOURNAL OF PSYCHOLOGY, XV, 3 : *James P. Porter*, A Preliminary Study of the Psychology of the English Sparrow ; *L. D. Arnett*, The Soul — A Study of Past and Present Beliefs ; *Robert MacDougall*, Facial Vision : A Supplementary Report, with Criticisms ; *F. Kuhlmann*, Experimental Studies in Mental Deficiency ; Literature ; Notes.

THE PSYCHOLOGICAL BULLETIN, I, 9 : *E. J. Swift*, The Acquisition of Skill in Typewriting ; Psychological Literature ; New Books ; Notes ; Journals.

I, 10 : *John Dewey*, Schiller's Humanism ; Psychological Literature ; Discussion ; New Books ; Notes and News ; Journals.

THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY, AND SCIENTIFIC METHODS, I, 15 : *H. R. Marshall*, The Field of Inattention ; *A. H. Pierce*, An Experience and an Inquiry ; Discussion ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

I, 16 : *H. Heath Bawden*, What is Pragmatism ? *L. P. Boggs*, The Attitude of Mind called Interest ; Discussion ; Reviews and Abstracts of Literature ; Journals and New Books ; Notes and News.

I, 17: *W. H. Sheldon*, Is the Abstract Unreal? *H. R. Marshall*, Of Conscious Efficiency; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 18: *William James*, Does Consciousness Exist? *M. F. Washburn*, The Genetic Method in Psychology; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 19: *H. R. Marshall*, Of Noetic Stability and Belief; *H. A. Overstreet*, The Process of 'Reinterpretation' in the Hegelian Dialectic; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

I, 20: *William James*, A World of Pure Experience; Discussion; Reviews and Abstracts of Literature; Journals and New Books; Notes and News.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, XXXV, 6: *Fritz Weinmann*, Zur Struktur der Melodie (Schluss); *Wilhelm Schuppe*, Meine Erkenntnistheorie und das bestrittene Ich; Namenregister.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE, X, 3: *Victor Kraft*, Das Problem der Aussenwelt; *A. Levy*, Vorbedingungen einer jeden wahren philosophischen Erkenntnis; *Julius Fischer*, Zum Raum- und Zeitproblem; *Theodor A. Meyer*, Das Formprinzip des Schönen; Jahresbericht.

REVUE PHILOSOPHIQUE, XXIX, 8: *D. Parodi*, Morale et Biologie; *G. Dumas*, Le sourire: étude psychophysiologique (2<sup>e</sup> et dernier article); *P. Landormy*, La logique du discours musical; *P. Hartenberg*, Les émotions de bourse; notes de psychologie collective; *H. Piéron*, Les méthodes de la psychologie zoologique; Analyses et comptes rendus; Revue des périodiques étrangers; Correspondance; Livres nouveaux.

XXIX, 8: *R. de la Grasserie*, De l'expression de l'idée de sexualité dans le langage; *P. Gaultier*, Ce qu'enseigne une œuvre d'art; *Marie-J. Dai-reaux* La sur-action; *F. Clément*, Un document contemporain sur l'inconscient dans l'imagination créatrice; Analyses et comptes rendus; Revue des périodiques étrangers.

REVUE DE METAPHYSIQUE ET DE MORALE, XII, 4: *G. Lanson*, L'histoire littéraire et la sociologie; *Ch. Rist*, Économie optimiste et économie scientifique; *L. Couturat*, Les principes des mathématiques; *A. Rey*, La philosophie scientifique de M. Duhem; *L. Weber*, La question de l'École Polytechnique; Supplément.

XII, 5: *L. Brunschvicg*, La révolution cartésienne et la notion spinoziste de la substance; *G. Vailati*, Sur une classe remarquable de raisonnements par réduction à l'absurde; *L. Couturat*, Les principes des mathématiques: *G. Lechalas*, Une nouvelle tentative de réfutation de la géométrie général.; *F. Marguet*, Sur l'idée de patrie; Supplément.

REVUE NÉO-SCOLASTIQUE, XI, 3 : *M. Defourny*, La philosophie de l'histoire chez Condorcet (suite et fin) ; *E. Janssens*, Renouvier et Kant ; *C. Alibert*, Les étapes de la méthode ; *C. Sentroul*, La vérité selon Kant ; *G. Legrand*, Philosophie morale et science des moeurs d'après un livre récent ; *Th. Gollier*, Revue d'ethnographie (suite) ; Bulletin de l' Institut de Philosophie ; Bulletins bibliographiques ; Comtes rendus.

JOURNAL DE PSYCHOLOGIE NORMALE ET PATHOLOGIQUE, I, 5 : *Pierre Janet*, L'amnésie et la dissociation des souvenirs par l'émotion ; *P. Sollier*, Le langage psychologique ; *F. Houssay*, Une curieuse illusion d'optique ; *Kahn et Carteron*, Expériences de dynamométrie ; Bibliographie.

RIVISTA DI FILOSOFIA ET SCIENZE AFFINI, II, 1-2 : *R. Ardigo*, Per una nota del sig. A. Fouillée ; *F. Pietropaolo*, La sintesi a priori ; *A. Ferro*, Il materialismo ; *G. Cimbali*, Le correnti inconsciamente negative e la filosofia del diritto ; *G. Chiabra*, La " Favola delle api," di G. Mandeville ; *F. Momigliano*, Un pubblicista, economista, e filosofo del periodo Napoleonico ; *G. Prever*, La confessione nel Buddismo e nel Cristianesimo ; Rassegna di filosofia scientifica ; Analisi e cenni ; Notizie ; Sommari di Riviste.

RIVISTA FILOSOFICA, VII, 3 : *C. Cantoni*, L'apriorità dello spazio nella dottrina critica di Kant ; *E. Sacchi*, L'immoralismo di Nietzsche giudicato da A. Fouillée ; *A. Piazzi*, Ancora sulla libertà degli Studi nello scuola media ; *E. Juvalta*, La dottrina delle due etiche di H. Spencer ; Rassegna Bibliografica ; Notizie e Pubblicazioni ; Necrologio — Pietro Luciano, Gabriele Tarde ; Sommari delle riviste straniere ; Libri ricevuti.

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[N. B. — (a) stands for original articles, (b) for book notices, (d) for discussions, (n) for notes, (r) for reviews of books, and (s) for summaries.]

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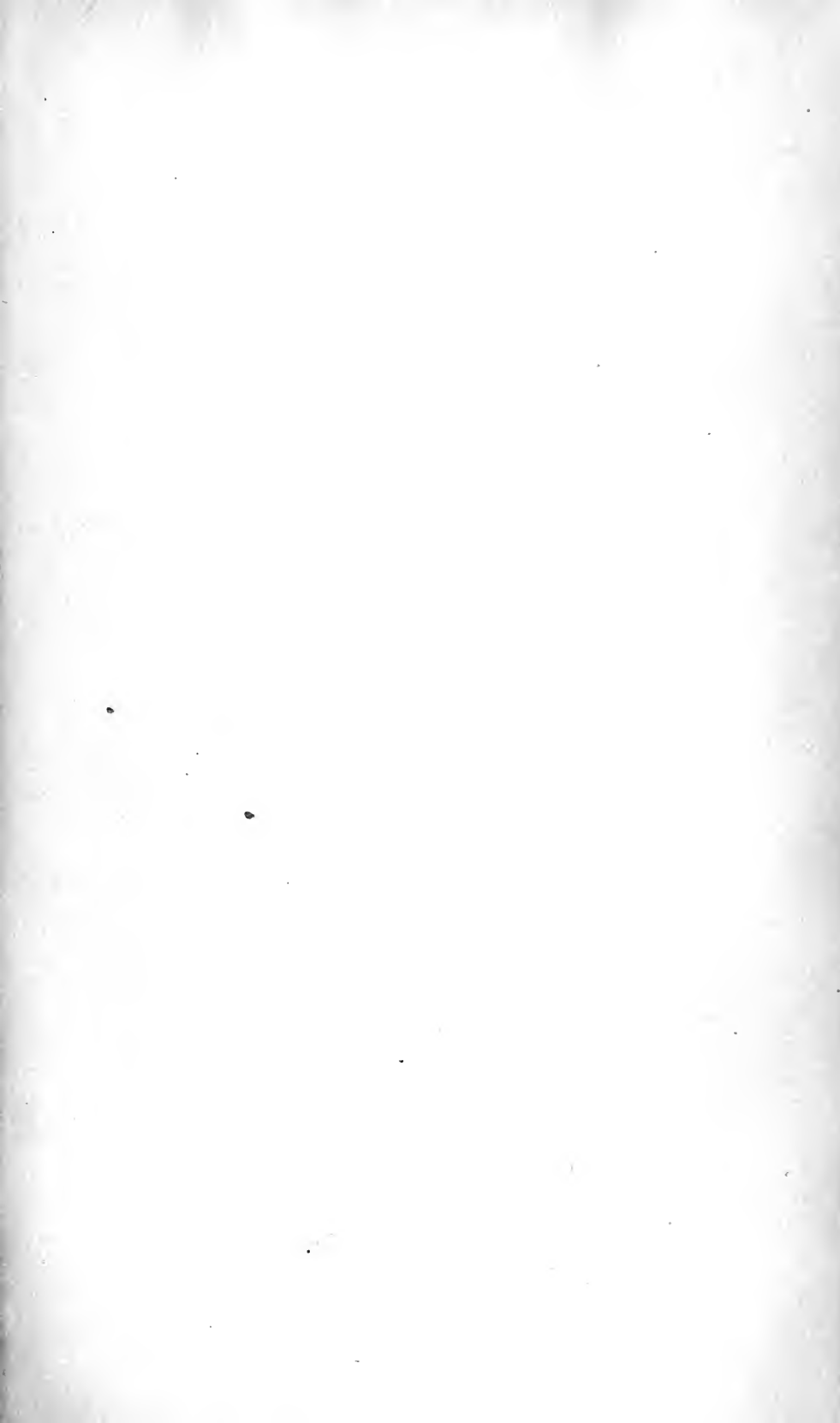
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